EXPANDABLE ERP

MANUFACTURING SOFTWARE REVIEW **BY SHELDON NEEDLE**

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Executive Summary

Expandable Software's product, Expandable ERP , provides a complete, integrated ERP infrastructure along with robust e-business, CRM, business intelligence and supply chain applications. Expandable was the first mid-market product to integrate with Salesforce It is available as a traditional, on-site implementation or SaaS subscription solution..

Expandable addresses make-to-stock, make-to-order, configure-to-order and mixed mode (batch process/discrete) environments. Expandable specializes in material intensive, discrete, repetitive and JIT environments and in those industries with lot traceability requirements such as electronics, semiconductor, medical devices and pharmaceutical.

Their customer based is heavily oriented to medical device manufacturers on the west coast.

Key applications include:

- Back Office
- Accounting and Finance
- Manufacturing Management
- Materials Management
- Order Management
- Engineering
- Enterprise Reporting
- Quality Assurance

Front Office

- Sales Order Management
- CRM Integration
- eCommerce
- Supply Chain Management

Key Industry Verticals

- Medical Technology Manufacturers
- High Tech Electronics Manufacturers
- Industrial Equipment Manufacturers
- "Virtual" Manufacturers (OEMs)
- Contract Manufacturers

User Experience

An executive information tool streamlines access to key performance indicators through a customizable, easy-to-use tab-based menu. Executive Dashboard Expandable's executive information tool puts critical metrics front and center with a customizable dashboard that highlights key performance indicators.

The somewhat dated graphical system supports a powerful Query-by-Example (QBE) function on all screens. QBE is a unique Expandable database inquiry tool that allows the user to create and execute SQL queries without having to remember the complex syntax of SQL. The data can be viewed in edit mode or a grid (spreadsheet format). Once information is displayed in a grid, you can do a mass change by selecting a column, entering a new value or date. The system will then change all of the lines in the grid to the new value or date.

Business Intelligence

An executive information tool streamlines access to key performance indicators through a customizable, easy-to-use tab-based menu. The Expandable Decisions tool harnesses the power of Microsoft's OLAP engine to analyze enterprise-wide data in an easy-to-use viewer.

Foundation

Expandable is a SQL product and is written in Borland's Delphi, The only database supported is Microsoft's SQL.

Expandable On Demand is a SaaS software-as-a-

service) version of the Expandable ERP software suite that offers integrated manufacturing and accounting as a subscription-based service. Expandable On Demand provides all of the manufacturing capability of the company's on-site product, but without the capital investment in software, hardware and implementation. With Expandable On Demand:

- Users connect to the software through a common Web browser from any Internet connection
- Upgrades are automatically installed so users always have access to the latest version of the software
- Companies pay a monthly subscription fee with no large, up-front investment or annual maintenance fees
- Data is protected by a state-of-the-art secure network with redundant systems to ensure uninterrupted service

Security

Security is provided for user and group access by program, edit (add, delete or modify), screen tab access and up to 16 options per program. Security on Transaction Type (Action Type) within a given program is provided. Also available is stockroom security to control access by stockroom personnel. Field level security is available via SQL database.

Reporting Expandable's reporting options help the entire organization minimize waste and increase business performance. All 250 + reports are developed with Crystal Reports Pro. The standard suite of reports can be copied and modified by the user on demand. Creating new reports with Crystal requires a tech savvy user.

Reports and are suitable for laser printing, faxing online or e-mailing. The user can modify the standard forms or created new ones as the templates are provided with the system. The Visual Financial Report Writer allows the user to create financial reports. Standard report templates are provided.

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Grid/Mass Change

A retrieved record set can be viewed in a spreadsheet format (grid), sorted by any column, ascending or descending, have columns rearranged in any order, exported to an Excel spreadsheet or text table or printed to any defined printer in any format supported by the selected printer. The grid format is saved for later use.

Once information is displayed in a grid, you can do a mass change by selecting a column, entering a new value or date. The system will then change all of the lines in the grid to the new value or date. Executive Dashboard Expandable's executive information tool puts critical metrics front and center with a customizable dashboard that highlights key performance indicators.

Expandable Alerts™

With Expandable Alerts, users gain a business watchdog that monitors operations and triggers e-mail notifications to customers, suppliers and business partners when their orders ship or inventories are depleted.

Attachments/Notes Expandable has the ability to add/view attachments, such as CAD Drawings, videos, test routines, and other visual tools and/or text to the screen, system wide. This functionality is available anywhere within the system where a master record exists, i.e. Customer Master, Part Master, BOM Master, Vendor Master, etc.

Expandable includes several useful Utility functions. A number of data fields can be expanded or contracted at the system level. For example the Inventory Item field can be any length up to 25 characters. Users can change field defaults as well. Another feature is the ability to change a user defined field to a table field complete with its own pop-up window and search capability. All user field names can be defined system wide. Inventory Control Expandable's Inventory Control module is an integral part of purchasing, sales order, and manufacturing planning and control activities. It is designed to accommodate multiple stocking locations (storerooms), multiple bins within a stocking location, and Lot Number and Serial Number tracking at the bin level. It includes cycle and physical counting capabilities, and provides multiple methods for transacting material movements, including manual issues, storeroom

transfers by item or kit, kit issues, and backflushing. Inventory can go negative in which allows shipping a product without having the job close to stock and also permits received stock to go immediately to fill shortages on the manufacturing floor with post entry by the receiving/materials department.

BOMs can have multiple revisions on the system by using the effective date control. Decimal stocking quantities are provided for with up to 4 decimal places and control by item. Unique unit of measure conversion (UOM) is available for purchase receipts, stocking and sales shipments. Multiple UOM's are available to provide the capability to order/ship one item from many vendors/customers each with a different UOM.

Item Master Table

The Item Master Table is critical for determining the treatment of an item for purchasing and manufacturing. The part number field can be up to 25 characters, which should satisfy most situations. A part can be designated as a make, buy, phantom, or floor stock. The part description is 40 characters in length, with the ability to have a separate search name. The user can also assign a standard comment to each item via the standard comments code. Sixteen user fields are available with user defined field labels.

Parts Master Editor Screen

Transaction Processing

Expandable has four primary ways of transacting material for production. The user can (1) manually issue all material to a job via the Issues Entry, (2) do an automatic issue of material at the time the job is started or in progress via Kit/Shortage Issues, (3) backflush all components automatically when the parent item is entered as complete (assumes no job), or (4) backflush at the operation level within a job.

Other transactions include returns, adjustments and transfers of items or kits. For the Kit/Shortage Issue transaction, the system can automatically issue the kit complete, or be prompted to enter each component individually. Also, you can be prompted for items with shortages, and then have the rest of the kit completed automatically. A job must be identified and released to enable the Kit Issue capability.

The Backflush Kit Issue allows the updating of inventory for a parent item completion and the standard quantity/amounts of all its components/labor/overhead without setting up a job in the job cost system. The single level BOM for the parent item is used to create the component kit issues. Components that are designated as Phantoms are blown through to the next level. Effective dates for each component in the BOM are included in the determination of what components to update. A very nice feature is that if the sum of the standard costs of the components does not equal the current standard cost of the parent, a backflush variance transaction is created, charging Cost of Sales or the variance account. If components are lot or bin controlled, during the backflush the user will be prompted for a lot or bin number. The ability to create a job and then backflush components at the operation level is also provided.

Lot/Serial Tracking Lot tracking is a strength of Expandable. A master table record maintained for each lot number. The Lot Master Table retains information such as lot number, manufacturer's lot number, manufacturer's name, manufacturer's part number, order number, original quantity, date created, and expiration date. It also includes three very helpful pieces of information - (1) Lot Type such as purchased, manufactured, or returned from a sales order, (2) Lot Status such as active, expired, or on hold, and (3) Lot Hold Code where the user can define reasons that the lot is not available for use. Any transaction that occurs against a lot tracked item in the system will require a valid lot number that has not been canceled, placed on hold, or one whose expiration date has not passed and expired the goods.

Enhanced Serial Number (S/N) tracking provides for indented S/N tracking from purchased parts, through inventory, WIP, Finished Goods Inventory, to Customer Shipments and lifelong maintenance, including RMA processing and tracking. The user has full visibility of replacement and or maintenance history for every serialized component and assembly processed through the Expandable system.

Inquiry

At any time you can inquire on information relating to virtually all aspects of an item, for example purchasing, job scheduling, product data control, sales orders, master scheduling, MRP, shop routing, lot tracking, and inventory control. This discussion will concentrate on inventory control.

Under Inventory Control, the normal focus is on part information and the user can inquire into an extensive list including stock status, inventory transaction history, standard cost and new cost table, job cost, Master Table detail, etc. The stock status screen lists one line for each stocking location where the part resides, the quantity on hand, and other stock status information. By highlighting the desired stocking location, the user can drill down to the detail of that location, including beginning balance, receipts, issues, adjustments and ending balance for the period, year, and previous year. It also shows the book quantity, physical quantity, date of last physical, and date of last receipt, issue and update. You may drill down to the transaction history or click a summation button to determine the total on hand for all locations including safety stock.

Purchase Order/Receiving

The Purchase Order module in Expandable is somewhat unique in that the Vendor Master Table is located in Purchasing instead of Accounts Payable. Each vendor can also have a different Pay-To Vendor or address. A vendor can be designated as regular, one time or 1099. Statistical information regarding AP Balance, Payments YTD, Discounts Taken, Lost YTD, Last Year, and Last Check Amount and Date are updated dynamically by the system Dollar limits for Buyer PO Approval are available for maintaining purchasing approval levels for individuals entering and changing PO's. Sixteen user fields with user defined field labels are available. A separate Vendor Contact table contains data for each contact at a vendor, including name, address, phone and email information as well as sixteen additional user fields.

Vendor Part Table Expandable includes a very complete Vendor/ Manufacturer/Item cross reference table. Each part number can be cross referenced to multiple vendors and vendor part numbers, as well as multiple manufacturers and manufacturer part numbers. Each vendor/manufacturer/item combination can have a status of Approved or Hold, enabling the user to limit the purchase of unapproved items from a vendor.

Purchase Order Entry

There are three types of POs - Normal, Blanket Contract, and Blanket. Each PO can also have a user defined Order Class, such as Blanket, Contract, Consignment, Samples, Overseas, etc.

Each PO can have separate Vendor ID and Location, Drop-Ship ID and Location, and Bill-To ID and Location. If any of the information is different for any Location, the ID must have its own vendor master record, even if it is the same vendor. Many of the fields are filled by defaults defined in the Vendor Master, including terms, tax code, freight code, and order discount percentage.

The PO line entry displays one item per screen. If the part number/vendor combination entered has an approved part number, information from the Vendor Part table will default into many fields. A nice feature is that if a pending ECN exists for an item, a warning is given and the EC number is displayed. This is very important for fabricated or purchased assembly parts. Both predefined inventory part numbers and miscellaneous supply

type items can be entered on a PO. A PO line item can be purchased to stock, to a job and operation, or be expensed..

Inquiry

From anywhere in the system, the user can inquire into virtually any aspect of purchasing activity from either the part number, job or the vendor perspective. If the user inquires by part number, the inquiry will provide a Purchase Order Status, Purchase History, PO Line Item Detail, Line and Order Comments, Vendor Part Table, MRP information, and Job Shortages, etc. When inquiring by vendor, the system provides all POs tied to the vendor, PO Line Item Detail, Line and Order Comments, PO Line Item Receipts, Purchase History by Vendor, Vendor Part Table, Vendor Price/Quote data, Vendor Master Table, etc. as well as invoice and payment information. All of this is available with full "drill down" capability. The inquiry capability is too extensive to describe completely. These inquiries are extremely powerful and very user friendly. Sales Order Processing

Customer Master

The customer number field can hold 8 alphanumeric characters. Each customer can have a separate Bill-To Customer ID and unlimited Ship-to's as well, typically representing another location. The Price Code table, Salesman and Sales Region, Ship Method, Tax Code, FOB, Partial Ship, SIC Code, two Resale ID's and two Contact Telephone Numbers as well as a Fax Number for the customer are provided A user defined Class Code can identify the customer as regular, overseas, rep, or VAR for example. If serial numbers are required by the customer, it is designated on the customer master. However, this can be overridden by designating serial tracking in the item master.

Customer Part Table

A Customer Part Table is available for use in maintaining customer information, i. e. OEM's, for saleable part numbered items. This Customer Part Number is cross-referenced to internal Part Numbers. Multiple Customer Part ID's may be cross-referenced to a single internal Part Number. During SO entry, the Customer Part information, including the customer's description for the part being sold, will automatically be displayed if a record exists on the Customer Part Table for the part and the customer. Quote Price and Quantity will be displayed. Fourteen user fields are available with user defined field labels.

Pricing

Pricing can be determined via the Customer Part Table or the Price Code Table. In Order Entry, the Customer Part Table is automatically checked first for a contract price and if none exists, the Price Code table is checked based upon the Price Code assigned to a customer.

Price tables in Expandable are defined by price code, effective date, and order quantity. Each part number can have multiple price codes, and each price code can reflect a quantity break, unit price, discount percentage, and starting and ending effective dates. You can designate whether an item's price and/or discount can be changed during order entry and whether item cost is displayed.

Sales Order Entry

Order Entry

There are three types of sales orders - Normal, One Time, and Return Authorization. Return Authorizations are handled within the regular order entry screen. RMA options include Return for Credit, Exchange/Cross Shipment, Replacement RMA, and Repair/Return. Each order can have a user defined Order Class, such as Blanket, Contract, Normal, Samples, Transfer, Consignment, or Overseas, for example, which relates to Revenue and Cost of Goods recognition via the Sales Order Parameter table. An order can hold separate Sold-To, Ship-To, and Bill-To addresses,. A Customer can be added on-the-fly during order entry, and many of the fields are defaulted from the customer master table.

Up to 998 lines can be entered on a single sales order. Two decimal characters are provided for the options order entry used for entering orders via the Sales Order Configurator module. A seamless interface is provided to this module when it is installed. A direct interface to the job module is provided to set up a job while in order entry. This is useful in a make or configure to order environment and for handling Repair Return RMA's.

Available to Promise, ATP, and/or stock status is available for each line item. An interface to the Customer Part table allows the customer item number to be called up along with its specific pricing, description, etc. This useful for sales to OEM type customers who require their own item numbers and descriptions on the order, packing list and invoice. The item description can be modified, and partial/complete shipping tolerances can be defaulted from the Customer Master Table. A line can also be placed on hold with customer specified hold codes, pending approval.

Inventory quantities can go negative, which allows order processing if quantities exist or are being received or manufactured and are not yet reflected in the computer. Each sales order line can have unlimited user-defined or standard comment lines, and unlimited comments can be added at the sales order level. A review/edit capability is also provided. Prepayments are allowed, asking for either a check number or a credit card number, name and expiration date. A separate Credit Card Table is maintained and can be set up on the fly directly from the order. Each order can have a status of Open, Forecast, Quote or Hold with Hold Codes.

Credit limit is displayed on the initial entry screen and checked against open orders and AR balance, with a warning message given if over the credit limit. Order entry is permitted to proceed. At the end of the order, credit is checked again. Information such as credit history is not automatically displayed on the screen during order entry. But, with the system wide "drill down" inquiry, any of this information plus much more can be accessed at any time during the order entry process.

The Web Sales Order Management allows customers, sales people, or customer service to enter orders over the Web. Inquiries are also available for order, shipment, or invoice status look up.

Return Material Authorization (RMA) Processing

RMA processing is very extensive and complete in Expandable. Four types of return goods are handled including Return for Credit, Exchange/Cross Shipment, Replacement, and Repair/Return.

Shipping

The Shipments/Returns program controls the entry of sales order shipments and return transactions. If

the user selects Ship Complete, all lines from the sales order will be shipped complete. Only lines with a non-blank Pick List Print date are processed. The Prompted mode allows the user to select and ship sales order lines individually or by exception first, then Complete for the balance of the line items. If appropriate, the user will be prompted for bin location and lot number. If the selling unit of measure is different than the stocking unit of measure, both quantities are displayed. The user is also asked to enter a bill of lading number, weight and number of cartons. An item can be shipped from a job in WIP, if the sales order line is identified as shipping from a job.

If serial numbers are required, the operator will be prompted for them. Individual or multiple ranges of serial numbers can be entered. Serial Numbers are validated against the Serial Number Table.

Inquiry

The user can inquire into virtually any aspect of Sales Order activity from either the part number, order invoice, customer, etc. perspective. If the user inquires by part, the inquiry will provide Sales Order Status, Sales History, Sales Order Line Item Detail, Customer Serial Numbers, Product Pricing, etc. When inquiring by Customer, the system displays all sales orders tied to the customer, Sales Order Item Detail, Shipment Transactions, Sales History by Customer, Customer Master Table, as well as invoice and payment information, etc. All of this is available with full "drill down" capability. Inquiries are also available by ZIP code, telephone number and customer PO number. A complete listing of all available inquiries is too large to give here.

Sales Order Configurator

Expandable also provides an optional Sales Order Configuration module. It allows a customer service person to configure the order for a given model from a predefined list of features and options. Order gross margin is calculated which can be compared to the minimum margin displayed on screen.

Simple rules (include/omit) capabilities along with minimum and maximum quantity logic is provided along with various options to print the item and/or price on the sales order or pick list. Kit lists can be automatically created for Job/work order release in the Job system. Standard configurations can be created off line and stored in a configuration table for later retrieval at order entry time. Previously defined configurations can be copied and modified online at order entry time or offline in the configuration module.

Options are available to copy a configuration to the BOM table and to create a planning bill for use in Master Scheduling.

The Sales Order Configurator interfaces directly with the Master Schedule module for scheduling and Available to Promise (ATP) data, to the Sales Order module for order entry and pricing, to the Product Data module for configuration data, to the Inventory Control module for part, model, feature and option data and stock status and to the Foreign Currency module for currency rates.

Product Data Control

Bill of Material – Product Costing

The Product Data Control module includes the creation and maintenance of Bills of Materials and Standard Product Costs. When creating a Bill of Material, you can create an inventory item on-the-fly for the parent and/or component and the vendor part cross reference and component reference for the component item. The single level bill can also be viewed if desired. The required quantity of each component allows six digits to the right of the decimal.

Each component has starting and ending effective dates, and can be designated as available for production only, engineering only, or both. An operation number can be assigned to each component, along with a scrap percentage, stockroom and a lead time offset. This is the number of days after the start of the parent's manufacturing process that the item is required. The user can also copy an existing BOM to a new part number and edit the new bill to streamline BOM creation.

Expandable allows unlimited text for Reference Designators or comments to be attached to each component in a BOM. These comments can also have effective dates and can be tied to production or engineering components.

Standard Product Costs Expandable are held in the Item Master Table. The standard cost is divided into four categories - Labor, Material, Outside Processing, Overhead and Other and includes value added costs at that level for each category as well as cumulative costs rolled up from all levels. For users that do not have a labor intensive production environment the Item Master may be used to establish a "light" routing of up to three labor types with the standard hours required per job. Overhead is available for each labor/machine type, and material and outside processing by individual part. If the Shop Routing module is in use, the ability to track and accumulate standard costs at the operation is greatly enhanced and managed from within the Shop Routing module.

Master Scheduling

The primary demand drivers of the Master Schedule are Customer Orders and Sales Forecasts. Sales Forecasts can be entered as an order type in Sales Order Processing or directly into the MS module. Each forecast entry includes a probability percentage, quantity, unit price, and extended dollar amount. Sales Forecast can be entered manually,

but the usual process utilizes a data upload from a spreadsheet. It is also possible to upload the forecast from a statistical forecasting system. In order to facilitate the ongoing maintenance of the Master Schedule, a Sales Forecast Copy utility is included. Forecasts can be copied from one version to another, based on part ranges and date ranges.

Multiple versions of the Sales Forecast can be maintained concurrently in Expandable, allowing for what-if visibility. The Master Schedule is kept on a table in a bucketless format by plan (due) date for each entry in the schedule. This allows correctly dated requirements to be used for MRP, but does not preclude the use of a period or bucket format for reporting purposes.

The Master Schedule can be run Forecast only, Orders only, with Orders consuming Forecast or Orders only depending on the manufacturing mode of the user. Standard APICS rules apply. The final master schedule can be passed to the Material Requirements Planning module with a utility.

Materials Management (MRP)

Expandable's Materials Management module is a traditional regenerative MRP maintained in a bucketless format. The primary purpose of MRP is to create and report time-phased material requirements to satisfy the production plan. It does this by performing a multi-level, gross-to-net explosion offsetting gross requirements at each level with replenishments from inventory, purchase orders, sales orders (RMA's), and jobs. The program assumes infinite capacity, and will not check capacity at the work center or labor type level. The MRP plan is usually loaded from the Master Schedule module, but an option exists to load in via an editor or spreadsheet.

Expandable provide four exception messages recommending changes for use in managing the data generated by MRP. These exception messages are Place Order, Expedite Order, Expedite/Place Order, and Excess Inventory. Place Order is a recommendation to open a PO or a job for a raw material or subassembly with insufficient quantities available at the Plan Date. The Place Order message also supplies a suggested release date based upon the item lead time. The Expedite Order message tells the user to accelerate an existing order and the Expedite/Place Order is a combination of the two.

The Excess Inventory message notifies that there is more inventory than required based on the planning horizon, or the range of dates used to regenerate the material plan. A Planning Workbench can be used to place jobs or purchase orders directly from the Material Requirements table generated in the last Requirements Generation run. The user has the option to select MRP data for processing based on Part, Part Type, Commodity Code, Product Line, Plan Through Date, Release Date, Preferred Vendor, Buyer, Planner and MRP Action Message.

The selected MRP data are displayed in grid format. Like the Inquiries, drill downs to part pricing, supply, demand and pegging data are available. The user can also drill down to the Job or Purchase Order Editors for the purpose of modifying existing orders. Prior to PO or Job creation, the buyer can edit Release Date, Plan Date, and Plan Quantity. For Buy and Expense parts, Vendor ID can be modified. Buy requirements can be added to existing POs.

Inquiry

The on-screen inquiry as it relates to Material Requirements Planning is very useful. From any place in the system, the user can inquire into the Material Requirements Plan from the part number perspective. The inquiry displays the Master Schedule by date for the item in a summarized format, and allows the user to "drill down" to the detail supporting each Master Schedule line. The inquiry also displays the Requirements Plan, showing all requirements and replenishments, a net projected available, and all planned orders/exception messages. This inquiry also allows a "drill down" to the line detail level for both the Requirements Plan and Pegging information. Finally there is a Pegging inquiry, listing all requirements, dates and reference information associated with the item.

Job Scheduling/Costing

Expandable's Job Costing module provides for the creation and maintenance of production jobs and "engineering" projects, and tracks the progress of a job through completion.

Job Creation & Release

There are five types of jobs - Customer Order, Engineering Project, Multiple Part, Repair Order, and Stock Order. If the Routing module is in use by companies with a more labor-intensive environment, you can select from the primary routing and nine alternate routings. This includes designating the receiving stockroom for the order, the WIP GL account for the job, and which stockroom the raw materials will be kitted from. Each job can have a separate release date, kit date, start date, and completion date.

Expandable currently uses forward scheduling when entering job release and completion dates, whereas MRP uses backward scheduling. The user does have the ability to reschedule an existing job by using either backward or forward Job Reschedule Utility.

The user has the option to release each Job as it is created, or may choose the Job Release utility which releases all jobs or a range of jobs on the Job Master Table that have a Scheduled Release Date less than or equal to the release date entered. Jobs

with Routings have their operations created, and the manufactured item's single level BOM with component effective dates are used to create a component kit list. Phantoms are exploded down a level. The user has the option of including scrap factors in the kit quantity calculation plus the ability to add, delete, or modify a kit list containing component requirements and shortages for a particular job through the Kit List Table Editor. The user can change the kit date and the kit quantity for a component.

For jobs without a detailed Routing the routing can be created on the fly at job entry using user defined simplified routing templates.

For the Kit/Shortage Issue transaction, the system can automatically issue the kit complete, or you can be prompted and enter each component one at a time. You can also kit by exception, entering shortages manually and having the system automatically kit the remaining components. A job must be identified and released to enable the Kit Issue capability. Kitting can be done by operation and from multiple stocking locations.

Labor activity against a job is entered through the Labor Distribution module. Labor information is entered based on an employee daily time ticket concept rather than a job ticket concept, although the system does not preclude the use of job tickets. Each screen holds one line entry for an employee and includes date, job, operation, quantity completed, straight, overtime, and double time hours. After a line has been entered, the system loops back to the Date field so the user does not have to re-enter employee ID and work type for each transaction. Indirect time can be captured since a job number is not required for entry. On all time entries, the user can designate a GL expense or WIP account for posting labor charges.

Expandable does a good job of accounting for scrap quantities and dollars. A scrap journal entry is created for posting to the General Ledger. All transactions, including completions to stock, returns from stock, scrap transactions, and transfers can be reversed using the Stock Completions Reversal Utility. There is a Job Movement Notes Table which provides the ability to enter Quality Statistics, Physical Measurements or other critical information at each step in the Job Operation Process. This data may be selected, sorted, queried, reported or simply stored for historical archiving.

When a job is completed, WIP is relieved for the quantity completed at standard cost. Variances are not automatically accounted for when the job closes. A WIP Variance JV Create function is used to identify and analyze all standard to actual variances. The function clears the remaining WIP balance from a job and creates required GL transactions for each variance such as a labor variance, vendor variance, material variance, and overhead variance.

A very useful function within Job Costing is the ability to split lots during the production process. Expandable provides the ability to transfer partially manufactured product from one operation and job to another operation and job at any time within the production process. This gives the user great flexibility in splitting a job when there is only enough labor and/or material to process a partial quantity or, if at a certain point in the production process, partial quantities veer off to assume a unique identity of their own.

Inquiry

The on-screen inquiry as it relates to Job Scheduling/Costing is quite thorough. From anywhere in the system, you can inquire into Job Costing from the part, job or customer number perspective. The Job Master Table inquiry displays all Job Master information, including scheduled vs. actual release, kit, start, and complete dates, as well as quantities completed, returned, scrapped, transferred, and the balance due. The Job Schedule

inquiry displays the sequence of operations the job must go through, quantities in and out of each operation, scheduled vs. actual operation dates, and expected yield with "drill down" capability into the detail of each operation.

Shop Routings

The Shop Routings module handles the creation, maintenance and reporting of data describing operations, outside processes, tools and notes used in the manufacturing process. Routings are sometimes referred to as a bill of labor as one of its more important functions is to record the standard or planned labor hours for each step of the manufacturing process.

Routing Table Maintenance

A Routing is a document outlining the manufacturing process and resources needed to produce a particular item. It shows the sequence of operations, outside processes, transportation, storage, and inspections to be used, including standard times for persons and machines, equipment and tools required, work centers, and more. To streamline operations, Expandable allows the user to create a routing once and use it on multiple parts. A part can have a primary routing and multiple alternate routings, and there can be multiple revisions of each routing.

Each Routing can have multiple operations. The detail information for the routing is held at the operation level. Each operation holds a task description and unlimited characters of predefined or user defined comments. The user can specify a lot size at the operation level designating the amount of a part that is normally processed. Yield is specified, as well as queue hours, setup hours, run hours, machine hours, move hours and the number of men and machines available to perform the work.

Tooling

You can maintain a Tool Master Table for each tool used in the production process. Each tool can have a description, a drawing ID, engineer, planner, buyer, vendor, unit cost, and tool life in manufacturing hours.

Additionally, there is an Operational Tooling Table which is used to maintain tool use information by operation for a part's routing. Tooling information can be held separately for the part's primary routing and alternate routings. Multiple revisions of the routing can be held as well. For each operation in the routing, the user can designate the tool number and quantity required, and beginning and ending effective dates of the tool's use.

Accounts Receivable

Invoice Processing

All invoices are processed in the AR module - invoices tied to sales orders and those not tied to sales orders. There are several types of invoices - Non-RA Credit Memos, RA Credit Memos, SO Invoices, and Non-SO Invoices. RA Credit Memos deal with returns of product for credit. Invoice data is automatically created for review and/or automatic invoicing via shipping/return transactions from the Sales Order module.

A sales order can be invoiced in either the current or a future month. Most of the header information is defaulted from the sales order and the Customer Master. The user has the ability to change many of the invoice header fields such as terms, freight code, shipping method, bank code, and order discount percentage.

Shipments can be automatically invoiced for speed, but you cannot make changes to line items. Alternatively, the user can review the invoice by

line item, and make changes to description, GL account, unit price, discount percentage, tax code, and can add comments.
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Inquiry/Reporting

From anywhere in the system, the user can inquire into virtually any aspect of Accounts Receivable activity from the customer perspective. The system displays all sales orders tied to the customer, Sales Order Item Detail, Shipment Transactions, Sales History by Customer, Customer Master Table, Customer Invoice and Payment information. All of this is available with full "drill down" capability to the transaction detail level and is too numerous to detail here.

Accounts Payable

Invoice Entry Processing

There are several different types of transactions that can be maintained in Invoice Entry - Non-PO Credit Memos, PO Credit Memos, Non-PO Debit Memos, PO Debit Memos, Non-PO Invoices, and PO Invoices.

When entering an invoice against a PO, the system will check for duplicate invoice numbers. The system will also check for whether an invoice date is within the current date plus X number of days in the future. Much of the header information defaults from the PO or from the Vendor Master. The invoice must be disbursed by PO line number. When a line number is selected, all non-invoiced receipts will be displayed one at a time until one is selected. All of the detail from the PO line is displayed, including part number and description, UOM, quantity received and returned, and unit price. The quantity invoiced defaults to the quantity received, but can be changed to account for differences if any.

Each line can be distributed to a GL account automatically or manually. Because Expandable is multi-company, cross company distributions will automatically generate inter-company offsets. Job charges are posted to Job Costing. If the Standard Cost is different from the invoiced amount a Purchase Price Variance will be created, booked and reported. This variance and the difference between the PO price and the Invoice price will be reported on the Purchase Price Variance Report.

Payment Processing

Invoices can be paid either through computer generated checks or through handwritten checks that can be entered after the fact. For system generated checks a Trial Payment Report is available which reports payments due based upon a user inputted pay date and the pay date of the invoice. An option is available to have a special check run to select only those vouchers that are coded "S" (Special).

Check printing is very forgiving of printer jams or out of form problems. The system has an excellent restart facility that is provided to the user. Checks that were damaged or not printed can be reprinted with new check numbers and the damaged check numbers can be voided in the system. An audit report is available for the check run.

Handwritten check posting must be against pre-existing AP invoices and can be posted at the same time that the voucher is created or after. There is a Stop Payment capability that reverses check information against the invoice and all GL transactions created by the check printing and posting. Voided check processing works in a similar fashion. There is also a Check Reconciliation feature for use in updating checks that have cleared the bank.

Inquiry

As in all other modules from anywhere in the system, the user can inquire into virtually any aspect of Accounts Payable activity from the vendor perspective. The system displays all POs tied to the vendor, PO Line Item Detail, PO Line Item Receipts, Purchase History by Vendor, Vendor Part Table, Vendor Master Table, Vendor Invoices and Vendor Checks. All of this is available with full "drill down" capability.

General Ledger

Chart of Account Expandable has a 14-character account number segmented by a 2-character company code, 4-character department code and 8-character account code. Each account number can have up to three Responsibility IDs of 6-characters. This is an identification code which serves to identify an individual, organization or product line responsible for a particular account. This can be very useful in creatively segmenting financial reports and doing Responsibility Accounting. An account can either be active or inactive, prohibiting transactions. Each account has eight user fields available with user defined field labels.

Bank Reconciliation

This function reconciles information from a bank statement (Statement Date, Ending Balance, Interest Income, Bank Fees/Charges) to the corresponding General Ledger Cash Account. Checks, Deposits and Miscellaneous Journal Entries can be cleared or reconciled. Checks can be cleared individually or by a range of check numbers.

Budget Entry

Each account can have a primary budget and nine revisions per year for prior, current, and future years. Budgets can be in local or foreign currency, or nonfinancial, allowing for headcount and production unit budgets. Comparative data is also maintained by account for an unlimited number of years. A Budget Upload utility is available to post budgets from a spreadsheet.

Reporting/Inquiry Expandable includes two levels of report generation and sophistication. For users requiring basic reporting capabilities, the system comes with several predefined reports, including Detail Transaction and General Ledger Reports, Trial Balance and a Budget Comparison Report. A Responsibility Report is provided for detailed departmental expense reports and includes a responsibility roll up capability.

Sarbanes-Oxley

Expandable Software, Inc. provides the features, functions, controls and tools to support customer compliance with Sarbanes-Oxley. Overall, these items will:

- Increase security
- Increase data and process integrity
- Enhance transaction auditability and traceability
- Automate manual processes
- Provide enterprise key performance information
- Increase enterprise business risk visibility

In addition, Expandable offers a customer implementation assessment service to review a customer's current implementation and setup to insure that it is being correctly and fully utilized. To educate customers (especially new hires) on the set up and maintenance of Expandable's applications and 3rd party tools, Expandable schedules monthly training classes.

RoHS-WEEE

Parts Master table and Vendor Part table fields are provided for tracking whether a part is exempt, certified, awaiting certification or a certification is in process per the European Union RoHS directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (e.g. mercury, lead, cadmium, chromium) and whether a part is exempt, certified, awaiting certification or a certification is in process per the European Union WEEE directive on the collection, treatment, recycling and disposal of waste electrical and electronic equipment.

Audit Log

Audit Log creates an audit trail of changes made to the database by automatically recording all additions, modifications, or deletions to any selected table and column in Expandable. Audit Log helps assure database integrity and security, and is an important component for maintaining compliance with regulatory agencies requiring audit trails. Audit Log identifies what data was changed, which individual made the change, and when they did it, regardless of the application used to change the data. Changes are captured in a History Table that logs the exact data that was modified, including before and after images of the data. The history table can be queried, printed, exported, or extracted and archived.

Support and Documentation

All support provided by Expandable to its customers is delivered by Expandable's employees. Expandable believes that having all support functions internal ensures the highest level of competence in the long term use of the product and

in supporting its clients. Support staff functions include: implementation planning, on-site and classroom training, data conversion, custom programming, telephone support, installation and testing. Classes on all modules are held monthly at Expandable's Santa Clara, CA location. See (www.expandable.com) for class content and description. There is an international user's group that meets annually for education and to provide product direction (www.ieuga.org).

Documentation is available on-line (field level descriptions, screen displays and report layouts) printed manuals are available. Also provided is information on tables accessed on each function, all system messages that might be encountered, detailed descriptions of each table and a detailed flowchart of how the information flows in each module.

Training manuals include a layman's discussion of the use of the module and its functions (a tutorial). These tutorials are included with training when you attend classes at Expandable's location or have the courses taught at your facility. Unfortunately many illustrations in the training manuals are out of date. The product comes with a sample company database. An annual maintenance fee of 18% of list price is charged which entitles the client to all product upgrades, new documentation and unlimited telephone support.

Pros and Cons

Pros

- FDA IQ/OQ Validation Scripts
- Part 11 Compliance
- MRP netting by item or stockroom
- Complete Password protection including by action type, stockroom and field
- Project tracking and accounting
- Responsibility accounting with Responsibility ID by account in GL

- Very strong RMA processing and tracking options include, Exchange/Cross Shipment, Replacement RMA, and Repair/Return
- Operation level yield tracking
- Lot splitting during production
- Start a job to make one item, but complete a different completed item (binning).

Cons

- Few significant improvements to this product in the past 5 years,
- AP, AR aging reports are not date sensitive so , for example, if you want to run an aging as of the end of May and transactions have been to posted to June, the June transactions will show up on the aging report
- No standard financial reports, requires using FRx to write reports
- Hard close required each period in order to run financial reports
- Only 3 sales tax codes are available (state, city, county), several states require 5 – 6 sales tax rates
- No Finite Capacity Planning, 3rd party available (Preactor).
- No Payroll module, 3rd party available.
- No Fixed Assets/Depreciation module, 3rd party available.

About Sheldon Needle

A former CFO, consultant and software designer, Sheldon Needle has authored or co-authored more than 20 books on software selection and has contributed articles to major publications, including the Journal of Accountancy and Nation's Business. CTSGuides.com has the distinction of being the very first company to do hands-on, independent evaluations of software for the middle market.

Sheldon speaks with business owners and managers every day about software selection and makes personalized recommendations based on their needs and budget. He is widely known and respected throughout the business software community for his independence, integrity and expertise.

As part of registering for our free software selection kit, you receive a 15-minute consult with Sheldon. Sheldon understands financial and business issues and speaks your language.

He knows the leading software companies—how they compare, their strengths and weaknesses, where they fit into the market and which ones would be suitable for your business.