Cloud ERP Software for Growing Companies
Expanding Your Potential

Today’s manufacturers compete in a complex global business environment where pressure is constantly being exerted to reduce costs and shorten production cycles.

Integrated business software is a necessity for managing efficient manufacturing operations but choosing and deploying enterprise-level software can be a critical disruption for emerging companies dealing with the challenges of rapid growth.

Expandable Software, Inc. provides a strategic option for growing companies who want to improve their business controls without risking a costly ERP implementation.

Expandable On Demand delivers all the integrated manufacturing and accounting tools featured in our traditional ERP suite without the complexity of an on-site deployment.

There’s no software to install or hardware to set-up. You gain all the benefits of full-scale ERP without making a large capital investment in software, servers and implementation.

With Expandable On Demand you minimize your up-front expenses while gaining the advanced business tools that get your organization working as one in the shortest possible timeframe.

Key Advantages of Expandable On Demand

Cost-Effective
The system is upgraded, maintained and supported by Expandable, so there’s no need to invest in expensive network infrastructure. There is no up-front software investment and ongoing expenses are predictable.

Expandable On Demand can be deployed to the entire organization, a single division or single user. You pay as you go, and as your organization grows you simply add more users as needed.

Accessible
Since the software is web-based, Expandable On Demand is ideal for companies with distributed business operations. Employees at remote divisions or supply chain partner sites can log into the system safely and securely from wherever they access the Internet.

Secure
With our highly skilled networking personnel, stand-by power, and up-to-date security infrastructure, Expandable On Demand provides a level of protection that’s hard to achieve in a stand-alone ERP deployment. Your data is backed up religiously, and network redundancies ensure continuous service.

Simple Facts

- Connect to Expandable On Demand through a common web browser – from wherever you access the Internet
- Upgrades are automatically installed so you’re always using the latest version of the software
- You pay a single monthly fee with no large up-front investment or annual maintenance charges
- Your data is protected by state-of-the-art network security, and redundant systems are maintained to ensure uninterrupted service

About Expandable

With a scalable ERP foundation backed by outstanding customer service and support programs, Expandable delivers a complete business solution that consistently supports emerging manufacturers growing to the billion dollar mark.

By delivering a cost-effective ERP infrastructure that integrates robust analytics, engineering, CRM and supply chain applications, Expandable makes a measurable difference in the ability of growing manufacturers to control business operations and build shareholder value.

Implementations of Expandable are accomplished in just a few weeks, and the system is backed by the industry’s most knowledgeable, responsive customer support professionals.

The Expandable system can be deployed on-site or in the SaaS model.
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Inventory Control

INVENTORY CONTROL maintains part information and inventory balances, providing you more control over your purchased goods and materials.

Parts may be stored in single or multiple locations within one storeroom or multiple storerooms.

MODULE FEATURES

**Parts Master File Maintenance**
- Variable part number length (up to 25 characters)
- Browse capability to find parts by number or by search name
- Substitute part number, preferred vendor
- ECN, pending ECN, drawing revision fields, drawing size
- Dates for: created, effectivity, original release, active, obsolete, last update
- Manufacturer/vendor part cross reference (maintained in Purchase Order)
- Customer part cross reference (maintained in Sales Order)
- Classification by commodity, product line and part class
- UPC and ITF Codes
- Lead times: vendor, receiving, kitting, manufacturing, shipping, planning, cumulative
- Order point, order quantity, and quantity for sales order processing
- Planner and buyer identification
- Flags: MRP, master scheduling, lot control, serial number
- Minimum sales quantity, maximum order quantity
- Stocking, buying and selling unit of measure conversion
- Variable decimal quantities (set by Part Identification)
- Part yield, shelf life, default storeroom
- Multiple user-defined fields and notes
- Attachments
  - Documents
  - Web addresses

**Global Part Inquiry**
- Drill down detail by sales order, purchase order, kits, jobs, stock, sales and purchase history, serial numbers, lots, routings
- Supply and demand summarized availability

**Kit Issues to WIP**
- Complete with one transaction
- Partial kit/partial return options
- Exceptions handling for shortages
- Automated lot and multi-location control
- Simplified kit returns
- Kit transfers (move entire kit to alternative WIP storeroom)

**Kit Shortage Tracking**
- By part, job, buyer
- Automated warning of shortages for any received part

**Issue and Returns Entry**
- Automatic inventory posting
- Kit shortage updating
- Support for expense issue ABC count days
- Snapshot of MTD and YTD quantities: beginning, receipts, issues, adjustments for each part/store-room
- Last activity dates: receipt, issue, on hand, physical, count sheet

**Reorder Point Reporting**
- By part and storeroom location

**Backflush Issue**
- No job or work order required
- Automatic inventory relief from WIP or main stores
- Variance calculations (option to override accounting)
- Issue configuration options
- Phantom BOM processing

**Multiple Locations**
- Multiple storerooms (up to 1,000)
- Automatic general ledger accounting by storeroom
- Approved storeroom for purchase
- MRP and MPS netting control by storeroom
- Stock status control
- Optional multi-location control
- Safety stock quantity by storeroom
- Cycle count days overrides
Inventory Control (continued)

**Multiple Locations within a Storeroom**
- Location field up to 16 alphanumeric characters
- Unlimited locations within a storeroom
- Password control by storeroom
- Stock status information available by storeroom, part, location
- Part quantities for current, on-hand, book, physical
- Automatic date capture of last activity, receipt, issue, physical inventory, cycle count work sheet, last update
- Multiple location transfer
- Create new locations if not previously established

**Stores Transfer and Adjustments**
- Transfer of an individual part or a complete kit
- Ability to adjust on-hand stock quantity (automatic update to appropriate G/L account)

**Value Distribution Reporting**
- ABC code calculation based on user criteria
- Unit cost
- Lead time
- Percent usage
- Forecasted or actual YTD usage
- Option to update ABC code on parts master file

**Daily/Monthly Transaction Reporting**
- By department, account, job, batch number

**Consignment Inventory**
The optional CONSIGNMENT INVENTORY module tracks parts (lot controlled and serialized) consigned to a customer, sales representative or dealer site for later use/sale, as well as loaner and evaluation parts that could be returned or sold at some future date.

**Serial Number Status**
- In house inventory
- Consigned Inventory
- Loaner Inventory
- Evaluation Inventory

**Stores Type**
- In house inventory
- Consigned Inventory
- Loaner Inventory
- Evaluation Inventory

**Sales Order Ship Type**
- C-from stock to consignment

**Inventory Accuracy**
Accurate inventory counts prevent stock-outs, shortages and excess inventory, while improving inventory turns. Expandable provides two methods of physical counting – Complete Physical Inventory and Cycle Counting:

**The Complete Physical (wall-to-wall) provides for the counting of all items using inventory tags:**

**Complete Physical Inventory (wall-to-wall)**
- Storeroom lockout to prevent transactions during count

**Inventory Tag Generation**
- By stores code, stock location sequence, part sequence
- Bulk tags
- Control tag number sequence

**Inventory Tag Updating**
- Original count update
- Recount update

**Inventory Tag Tracking**
- By stores code, part, stock location, tag number
- Voided and missing tags

**Inventory Tag Print**

**Inventory Tag Posting and Updating**

**Void Unused Bulk Tags**

**The Cycle Counting function provides for the systematic counting of parts throughout the year:**

**Cycle Counting**
- Storeroom lockout to prevent transactions during count
- Selection criteria:
  - storeroom code
  - ABC code
  - number of parts to count
  - date of last count
  - include negative on hand
  - additional parts to count
- Count days determined by ABC code with individual override
- Book vs. physical analysis

**Real-time Integration**
- Multiple Location
- Lot Tracking
- Tag Inventory
- Purchasing
- Product Data Control
- Sales Order
- Sales and Booking Analysis
- General Ledger
- Multiple Company
- Foreign Currency
- Job Scheduling/Costing
- Shop Routing
- Materials Management (MRP)
- Master Scheduling
- Configuration Control
- Consignment Inventory
- Engineering Change
Master Scheduling

MASTER SCHEDULING is key to effectively planning the manufacturing activities of your business. It provides versatile functions to help you create and maintain the company’s Master Production Schedule (MPS) for finished products and service parts.

Planning bills are supported to streamline and simplify your forecasting operations. The Master Schedule forecast can be automatically created from forecasted sales, quotations and actual demand (see Sales Order Management).

Forecasts can also be manually entered, uploaded from your favorite forecasting/modeling software or from a simple spreadsheet. Multiple versions of the forecast can be maintained for “what-if” simulation.

Available to promise, projected on hand and planned order releases for MPS parts is available during sales order entry as well as system-wide. Master Schedules may be automatically passed to the Materials Management function for use in Material Requirements Planning (MRP).

Sales Forecast Maintenance
- Create manually or automatically post from forecast status sales orders
- Planning bill
- Multiple versions
- Copy
- Spreadsheet upload

Demand Generation
- Automatically posted from sales orders
- Imploded to planning bill

Supply Generation
- Automatically posted from Inventory, Purchasing and Jobs
- Option to include RMAs as supply

Master Schedule Creation
- One or two level master schedule
- Options and models based on percentage of planning bill
- Utilizes demand and planning time fences
- Option to explode planning bills using planned percentages or actual demand
- Option to create available to promise file
- Calculates:
  - Available to promise
  - Projected availability
  - Suggested MPS orders

Automatic MRP Plan Creation
- Moves the Master Production Schedule to production

One-step MPS-MRP
- Workflow to execute multiple MPS and MRP functions

Comprehensive Bucketless MPS Reporting
- By part
- By planner
- Includes:
  - Forecast
  - Production forecast
  - Demand
  - MPS orders
  - Projected on hand
  - Available to promise
  - Exception messages

Real-time Integration
- Sales Orders
- Inventory Control
- Lot Tracking
- Product Data Control
- Job Scheduling/Costing
- Purchasing
- Materials Management (MRP)
Materials Management

MATERIALS MANAGEMENT is the first step in the execution of your plan. It defines the actions to be taken, and when to take them for buyers, planners, expediters and production schedulers.

The action messages of Expandable’s “bucketless” Material Requirements Planning (MRP) reporting are your company’s time-phased call to action.

Material requirements are generated based on a production schedule from the Master Production Schedule (MPS) or may be manually created.

MODULE FEATURES

Production Plan Maintenance
- Part demand by required dates
- Customer and user reference information
- Optionally created by Master
- Schedule Utility
- Load Sales Order demand directly into MRP Part Plan

Material Requirements Generation
- Include and exclude options:
  - Select on release date
  - Collect stock, open order status
  - Analysis of safety stock
  - Explode assemblies only
  - Calculate component requirements
  - Negative inventory
  - Safety stock
  - Expense items
  - Shortages from closed jobs
  - Purchase order requisitions, quotation, blankets
  - on-hold purchase orders and jobs
  - Lead time for phantoms
  - Use part lot size or exact quantity
  - Update part forecast in the Part Master File
  - Select on part plan source

Planning Workbench
- Place jobs and purchase orders directly from MRP run

Material Requirements Reporting
- Top level pegging
- Bucketless calculation with summarized or detailed reports
- Selection by:
  - Buyer
  - Vendor
  - Part
  - Planner
  - Date range
  - Action message(s)
- Detail shows:
  - Gross requirements
  - Open orders
  - Planned orders
  - Recommended release date
  - Pegging data
  - Parts user fields
- Action analysis:
  - Recommended orders
  - Recommended order re-scheduling
  - Order past due
  - No requirements
  - Optional vendor info

Inquiries
- Material Requirements
- Option to create PO line or job from inquiry
- Pegging
- Part plan

Manufacturing Calendar
- Generation by year
- Work days vs. non-work days
- Plant shut-down date range

Multi-run Planning
- By plant
- Compare MRP runs
- Centralize purchasing

Real-time Integration
- Inventory Control
- Lot Tracking
- Purchasing
- Product Data Control
- Job Scheduling/Costing
- Master Scheduling
Lot Tracking

Expandable’s extensive LOT TRACKING capacity provides the traceability of purchased or manufactured items from raw material receipt to a finished product’s final destination. Lot Tracking improves quality by monitoring expired lots, tracing defective materials back to vendors and to customers who were shipped defective product, and provides information to satisfy governmental reporting requirements for the pharmaceutical and medical instrumentation industries.

MODULE FEATURES

**Lot Master File Maintenance**
- Maintain both internal lot numbers and manufacturer’s lot numbers for purchased items
- Search by storeroom, part, lot
- Maintain date created, expiration date, last activity date, retest date
- Lot status: active, completed, expired, hold, cancelled
- Internal lot numbers system generated or manually entered
- Multiple user-defined fields and notes
- Attachments
  - Documents
  - Web addresses

**Parts Master File Maintenance**
- Lot control designated by part
- Shelf life / expiration days

Lot Transaction Tracking
- Action date
- Action type:
  - Purchase order receipt
  - Issue (job, backflush, expense)
  - Inventory adjustments
  - Customer shipment
  - Customer return
- Order/vendor/customer identification for each transaction
- Quantity processed
- Maintain lot information at the time of receipt, issue, transfer, shipment or RMA
  - QA information
  - Text messages
  - User-defined fields

Inquiries/Reporting
- Lot status
- Expiration status
- Detail transaction activity
- Where-used pegging
- Where-from pegging
- QC / MRB status

Real-time Integration
- Inventory Control
- Tag Inventory
- Purchasing
- Job Scheduling/Costing
- Sales Order
- Materials Management (MRP)
- Master Scheduling
Shop Routing

Detailed, accurate scheduling, costing and WIP tracking are achieved through the SHOP ROUTING system that provides routing master data, defining the sequence of operations required to manufacture a part.

**MODULE FEATURES**

### Work Centers
- Labor only
- Machine only
- Both labor and machine
- Outside processing vendor operation

### Work Center Definitions
- Description of work center
- Department
- Browse by work center or department
- Location
- Machines
- Class code
- Number of hours per day
- Efficiency factor
- Shifts
- Operational hours per day
- Labor efficiency factor
- Productivity percentage
- Standard labor rate
- Standard labor burden
- Queue hours per work center
- Reporting by work center or department

### Job Creation
- Create jobs from MRP Inquiry

### Routing Maintenance
- Standard routings (master routing)
- Alternate routings
- Routing copy capabilities
- Routing hours roll-up
- Operation data
- Indirect and direct labor
- Outside processing

Data maintained by each operation includes operation code, work center/vendor, queue hours, set-up hours, run hours, move hours, yield percentage and procedure descriptions. A vendor can be referenced if the work is performed at an outside manufacturer. Flexibility includes tooling control and alternate routings per product.

### Operations Data
- Operation code
- Work center
- Yield percent
- Queue hours
- Setup hours
  - Direct and indirect labor
  - Operation lead time
- Run hours
  - By labor and machine
- Move hours
- Lead time (Queue + Set-up + Greater of Labor/Machine Run + Move)

### Routing Cost Variance Analysis
- Labor, material, outside processing, standards change, scrap
- Standard versus actual costs Report selection by part, job

### Routing Costing
- Effective date control
  - Operation added and cumulative costs:
    - Labor
    - Labor burden (factory overhead)
    - Materials
    - Outside processing burden (overhead)
  - Work center control of:
    - Standard labor rate
    - Standard labor burden
    - Option to include yield and scrap

A utility is provided for calculating daily work center labor and machine loads for open operations on routing jobs, using setup and run hours. Each operation’s load is based on the balance currently at the operation plus any expected quantity yet to be delivered from a prior operation. Positioned by Shop Day, the resultant load can be compared to capacity in graphical format on the Work Center Load report.

### Tooling Requirements
- Browse capability by tool part ID or alpha search name
- Tool part ID
- Tool description
- Storage location
- Cost
- Expected life
- Tool status
- Drawing ID, drawing revision and ECN
- Responsible engineer
- Buyer and vendor
- Substitute tool
- Routing where used

### Reports and Inquiries
- Routing master
- Routing-part cross reference
- Operational tooling list
- Work center load

### Real-time Integration
- Inventory Control
- Purchasing
- Product Data Control
- Job Scheduling/Costing
- Materials Management (MRP)
Job Scheduling and Costing

JOB SCHEDULING/COSTING provides the features of both job costing and project accounting systems. It provides management with schedule tracking by responsible department.

MODULE FEATURES

Job Entry
- Automatic or manual job number assignment
- Stock orders
  - RMA
  - Production rework
- Repair orders
- Customer orders
- Multiple part orders
- Engineering projects
- Multiple operations within job/work order
- Job copy capability
- Link to sales order, RMA, purchase order, lot and master job
- Job, operation, standard comments
- Pending ECN warning message
- Default kit from and complete to storerooms
- Default WIP account with override
- Partial/complete quantity control
- Job hold with reason codes
- Priority code
- Multiple user-defined fields and notes
- Attachments
  - Documents
  - Web addresses

Job Schedule Maintenance
- Scheduled and actual:
  - Release dates/quantities
  - Kit dates/quantities
  - Start dates/quantities
  - Complete dates/quantities
- Forward and backward re-scheduling

Job Release
- Option to include scrap in kit quantity
- Create operations for jobs with routings
- Create kit records for configurations without BOM

Cost Detail Report

Job Cost Variance Analysis
- Labor, material, outside processing, overhead
- Standard versus actual costs
- Report selection:
  - By job
  - By part, job
  - Summarized or detailed
- WIP Variance JV Creation

Job Status Inquiry/Reporting
- By job
- By part
- By work center (with loading if Shop Routing installed)
- By priority code
- By WIP account
- Receipts, completions, returns, transfers, scrap

Identify status of work in process using the Job Editor
Job Scheduling and Costing (continued)

**Job History**
- By job/work order
- By part

**Kit File Editor for Custom Jobs**
- Edit kit list for specific job without changing BOM

**Kit Reporting**
- Analysis with consolidation option
- Pull document
  - Option to print component references and job comments
  - Option to print available inventory by location and lot
- Shortage tracking
  - By job and component
  - Option to print component availability

**Job Transaction Notes**
- User-defined prompts for test, quality and status information
- Miscellaneous comments Entered at operations and job completion

**Project Budgeting**
- Multiple accounts and operating departments
- Variance analysis, budget to actual

**Job Completions Entry**
- Posted to inventory by storeroom
- Automatic shortage checking
- Transfer to another job
- Scrap reporting by operation, account, reason code
- Prompt for serial numbers, optional lot number
- Backflush by operation
- ECN Warning

**Adjustments Entry and Journal Entry with General Ledger Transaction Creation**

**Real-time Integration**
- Inventory Control
- Multiple Location
- Shop Routing
- Materials Management (MRP)
- Master Scheduling
- Accounts Payable
- General Ledger
- Labor Distribution
- Foreign Currency
- Lot Tracking
- Purchasing
- Sales Order
- Configuration Control
- Engineering Change
- Purchase Requisition

The Work Center Schedule displays all of the work orders scheduled for a specific work center.
Purchasing

PURCHASING optimizes buyer effectiveness by simplifying buying decisions, vendor analysis and purchase order (PO) creation.

Expandable's Purchasing function tracks POs from quotation and/or requisition, through placement with the vendors, receipt and/or inspection and final disposition of inventory.

Inquiries display vendor status information including vendor master, POs, purchase history, AP invoice and AP checks.

MODULE FEATURES

**Purchase Order Entry Including**
- Automatic or manual purchase order number assignment
- Normal, blanket, blanket contracts
- Find vendor by number, alpha search name, zip code or phone number
- Review vendor comments
- Buy from, bill-to, drop ship-to vendor control
- Discount by line item and/or total order by purchase order line
- Sales/value added tax codes
- Requester
- Quality control inspection flags
- Storeroom
- Partial receipt control
- Early receipt flag
- Find manufacturer/vendor part number, quote price, QC status
- Automatic vendor part file generation option
- Three dates per line: requested, scheduled, revised
- Inventory and miscellaneous items
- Storeroom and expense purchases
- Order and line holds with reason codes
- Multiple order status: quotation, requisition, hold, open
- Line, order and standard comments
- Unit of measure conversion Pending ECN warning message
- Multiple user-defined fields and notes
- Attachments
  - Documents
  - Web addresses

**Blanket Release Entry**
- Contract release – control purchases by contract value and expiration date
- Blanket release – control purchases by part, total quantity, expiration date

**Buyer Purchasing Limits**
- Set purchase order dollar amount by buyer
- Optional

**Purchase Order Copy Capability**

**Purchase Order, Quotation and Requisition Printing**
- New, changed, old purchase orders/quotations/requisitions
- Range of purchase orders/quotations/requisitions
- Range of buyers

**Blanket Order Reporting**
- By purchase order, vendor, vendor name
- Order date range
- Option to include releases

**Quality Control MRB Status Reporting**
- Selection by buyer, purchase order, vendor, part

**Daily/Monthly Transaction Registers**

**Purchase Order Status Reporting**
- Selection by
  - Vendor ID/name
  - Buyer
  - Order date
  - Delivery date
  - Part
  - Purchase order
Receipts and Returns Entry
- Automatic shortage checking upon entry of receipt
- Early and partial receipts control
- Serial number and lot number prompting
- Receiving by line or part
- ECN Warning

Purchase Order Receipt Transaction Notes
- User-defined prompts for test, quality, status information
- Miscellaneous comments
- Prompted at purchase order receipt, QC acceptance or rejection

Aged Purchase Order Commitments Reporting
- User-controlled aging parameters
- By vendor account

Vendor Master File Maintenance
- Browse by vendor or buyer code
- Exception filters by percentage, dollars, quantity
- Default tax rates and resale identification fields
- SIC and NAICS code
- 1099 types
- FOB control
- Default carrier selection and freight payment terms
- Bank code and maximum payment
- Multiple buyer and AP department contacts, telephone, fax
- Default payment terms (including “days late”)
- Vendor status – approved, purchase order hold, check hold
- Default expense accounting
- Multiple user-defined fields and notes

Vendor Part File Maintenance
- Vendor part number
- Manufacturer’s name and part number
- Leadtime, lot size, unit of measure conversion
- Approval status, inspection required flag, inspection level for quality control
- Quoted price and quantity, last purchase order price, quantity, date
- Delivery lead time
- Generic vendor capability
- Multiple user-defined fields and notes
- Attachments
  - Documents
  - Web addresses

Purchase Price Variance Analysis
- Detailed history tracking by part, vendor, buyer
- Historical variances
  - Purchase order price vs. invoice price
  - Quantity received vs. invoice

Purchase Order History and Performance Reporting
- Detailed part history
- Vendor performance analysis
- Buyer performance analysis

General Ledger Transaction Creation
- By department, account, purchase order number

PO Creation
- Create purchase orders from MRP Inquiry

Real-time Integration
- Inventory Control
- Accounts Payable
- General Ledger
- Lot Tracking
- Job Scheduling/Costing
- Shop Routing
- Master Scheduling
- Materials Management (MRP)
- Multiple Company
- Foreign Currency
- Purchase Requisition
- Engineering Change
PO from SO Create Workbench

The PO FROM SO CREATE WORKBENCH provides the option to generate a Purchase Order directly from Sales Orders created in the Expandable system. A “Create PO” checkbox is added to the Sales Order Editor, allowing users to streamline the buying process by initiating a purchase order as part of the Sales Order entry process.

Streamline Supply Chain Flow

The PO from SO Create Workbench is especially advantageous for companies outsourcing elements of production to contract manufacturers who drop ship orders directly to the end customer.

Using the workbench, a buyer is able to review the buy demands before the actual purchase orders are created. The buyer is able to select all or individual orders and create POs directly from the sales order that’s driving demand.

The Workbench allows a buyer to complete the entire order and purchasing process without needing to re-enter information or open multiple application windows.

KEY BENEFITS

• Improve productivity by completing purchase orders and customer shipment data directly from the Sales Order entry screen.
• Streamline supply chain cycle by shipping product directly to the end customer through supply chain partners.
• Increase accuracy in purchasing

MODULE FEATURES

• Auto PO creation direct from SO
• Select all or individual orders
• Ship end product directly to customers
• Review buy demands by
  o Buyer ID
  o Preferred Vendor
  o SO ID
  o Part ID
  o Scheduled Ship Date
• Prompt to review changes tied to SO
  o PO Status
  o Drop Ship ID
  o PO Line Status
  o Revised Order Quantity
  o Stores Code

Use the Workbench to review buy demands before actual purchase orders are created
e-Purchase Requisitions

The e-PURCHASE ORDER REQUISITIONS module provides authorized employees a convenient and efficient way to process requisitions.

Employees use the Web to enter, review, and approve/reject purchase requisitions for stock and expense purchases.

Once the requisition has been approved, the buyer uses the Expandable Workbench function to convert the requisition to a purchase order. Any time a requisition is amended, approved or rejected, the system automatically notifies key personnel.

All functions use the Expandable security and licensing.

MODULE FEATURES

Requestors/Approvers
- Assign default buyer and requisition routing
- Define approval dollar maximums for approvers

Requisition Routing
- Define approval chain with up to six levels of technical and financial approval
- Requisition number system assigned

Alternate Approvers/Buyers
- Define alternate approvers and their effective date ranges
- Buyer option for front-end or back-end processing

Requisition Entry
- Item ID or Description
- Requested Delivery Date
- Quantity and Unit of Measure
- Optional Items
  - Price, Vendor
  - Expense Account
  - Job, Comments
  - Attachments

KEY BENEFITS
- Save time in purchasing
- Reduce inefficient paper systems
- Increase purchase order accuracy
- Enhanced control and visibility during the requisition to receipt process.

SYSTEM REQUIREMENTS
- Expandable Version 8.4 or higher
- Web Server – IIS 6.0 or higher
- .NET Framework Version 2.0
- Internet Explorer, Version 6.0 or higher

Enter and/or edit purchase order requisitions in Expandable using your Web browser.
Labor Distribution

Expandable LABOR DISTRIBUTION controls employee information and handles collection of employee time charges and distribution of those charges to the proper account, job or project.

Provision is made for basic time collection and reporting via labor distribution reports by employee and account.

Labor Distribution supports multiple labor rates for standard costing. This information can be used to input to a separate payroll system.

MODULE FEATURES

Employee File Maintenance
- Name and address
- Vacation, sick and personal time accounting
- Vacation and sick time accrual rates
- Work type and work department
- Emergency contact information
- Personal data
- Review date
- Multiple user-defined fields and notes
- Attachments
  - Documents
  - Web addresses

Employee Tracking
- Employee ID
- Name
- Address
- Social Security number

Batch Control Report

Labor Distribution
- By home department
- By employee
- By batch

Personal Time Status Tracking

Personnel Work Type Maintenance
- Multiple skill classifications
- Maintenance of standard and new labor rates
- Maintenance of standard and new overhead percents
- Maintenance of burden overhead percents

Time Charge Entry to Jobs and Projects

Real-time Integration
- Inventory Control
- Product Data Control
- Job Scheduling/Costing
- Shop Routing
- General Ledger
- Foreign Currency
- Multiple Company
General Ledger

Expandable GENERAL LEDGER collects the current and historical information required to analyze and control a company’s financial activities, provides functions to enter and control journal vouchers, prepares budgets and creates detail transaction and balance sheet reports.

General Ledger integrates with all other Expandable functions and features the FRx Visual Financial Reporting Software.

**MODULE FEATURES**

**Budgeting**
- Online entry
- Multiple budget versions
- Budget file maintenance
- Budget copy capability
- Budget comparisons

**Online Journal Entries**
- Running balance totals
- Manual journals
- Recurring/standard journals
- Skeleton/template journals
- Automatic reversing option
- Scrolling review capability
- Automatic GL transaction collection
- Batch balancing and reporting
- Prior period entries
- Prior years entries
- Future period entries
- Multiple user-defined fields and notes
- Attachments
  - Documents
  - Web addresses

**Ledger Balances**
- Controlled by fiscal years
- Supports 12 or 13 fiscal periods
- Controlled by user-defined types such as:
  - Financial data (required)
  - Statistical data (headcount, units produced)

**Posting/Closing Cycles**
- Current period
- Multiple period
- Prior period
- Prior year

**Chart of Accounts Maintenance**
- Types (assets, liability, equity, sales, expense)
- Account structure broken into three sections for better control: company, department and natural account number
- Status (active, inactive)
- Copy capability
- Alphanumeric or numeric account numbers
- Multiple Company
- Foreign currency
- Multiple user-defined fields and notes
- Attachments
  - Documents
  - Web addresses

**Bank Reconciliation**

Expandable BANK RECONCILIATION ensures financial reports are accurate and up-to-date by managing all bank-related information, including payments, deposits, credit card transactions and bank fees. Information from bank statements is entered and reconciled to the corresponding cash General Ledger account.

**Display Outstanding Items**
- Checks
- Deposits
- Miscellaneous Charges
- Journal Voucher transactions

**Reconcile by Individual Check, Range of Checks or All Checks**

**Record from Bank Statement**
- Statement Date
- Ending Balance
- Interest Income
- Bank Charges

**Reconcile Transactions from Multiple Banking Institutions**

**Finish Later**

**Currency Code**
Foreign Currency

Expandable FOREIGN CURRENCY provides complete control of currency exchange rates, currency by trading partner and currency rate fluctuation gains and losses, realized and unrealized.

Foreign Currency maintains the exchange rate information to allow purchase order, accounts payable invoice, sales order and accounts receivable invoice financial values to be tracked in both the currency of the supplier or customer and in local currency. Realized currency gain and loss values are calculated at the time of payment generation in Expandable Accounts Payable and payment application in Expandable Accounts Receivable.

All general ledger transactions created in subsidiary systems carry local currency financial values to the General Ledger. Foreign Currency also includes the ability to calculate and track Value Added Tax (VAT).

The GL CONSOLIDATION utility consolidates financial data from multiple databases and different currencies. The utility consolidates data to a separate database or into your primary Expandable database.

**GL Consolidation**
- Source Database
  - Status
  - Data Source Name
  - Database
- Destination Database
  - Status
  - Data Source Name
  - Database
- Fiscal Period
  - GL Year
  - GL Month
  - Company ID
- Rates
  - Month End Rate
  - Period Average Rate
  - Historical Rate 1
  - Historical Rate 2
- Gain/loss
- Department

**Value Added Tax**

**Tax Code Maintenance**
- Alpha/numeric three digit codes
- Effective date control
- VAT description to 24 characters
- VAT rate up to 99.9999 percent
- Default VAT department and account number

**VAT Effective Date Logic for Correct Rate**
- Purchase order entry and maintenance
- Sales order entry and maintenance
- Accounts payable and accounts receivable entry
# Accounts Payable

Expandable ACCOUNTS PAYABLE provides control over cash disbursements and related accounting functions. Information is collected on vendor invoices, discounts and expense distributions and provides prepayment information, writes checks and generates related reports.

Accounts Payable provides four-way matching between invoices, purchase order receipts and standard cost, eliminating manual efforts, reducing errors and providing more effective management control of purchase price variances.

Multiple distributions are supported. Invoice information is posted to Purchase Order history.

## MODULE FEATURES

### Invoice Entry
- Browse to find vendor by number, alpha search name, buyer, telephone, zip code, etc.
- Jump to vendor or voucher file (zoom capability) while entering an invoice
- Invoice types: purchase order or non-purchase order, credit memo and debit memo
- Online duplicate invoice checking
- Four-way matching between invoice, purchase order receipts and standard cost
- Discounts and due dates automatically calculated
- Expense distribution, including:
  - Automatic default distributions based on PO
  - Multiple distributions (up to 499 per invoice line) across companies (if Multiple Company installed)
  - General ledger account validation
  - Job/project validation and distribution
- Automatic multilevel sales tax calculations
- Automatic VAT calculations
- Automatic hold option
- Pay per terms, special or next check run
- Link to open receipts report

### Cash Management
- Cash disbursements forecasting (user-defined aging periods)
  - By due date or invoice date
  - Detailed or summary option
  - By vendor or vendor name
  - Current or end of fiscal period
- Prepayment review and control
- Vendor and/or invoice hold flags
- Partial payment/retention control
- Term discount control
  - Take discount on gross invoice amount
  - Days late feature (always take discount so many days after discount date)

### Purchasing Data Control
- Variance reporting from four-way matching
- Received not invoiced and returned not credited reporting
- Expense accrual reporting

### Batch Control Registers
- Batch control (both original entry and adjustments)
- Invoice by vendor or voucher
- Purchase variance with exception filters

### Check Reconciliation
- By range of check numbers or individual
- Report voided checks
- Report uncleared checks

### General Ledger Transaction Creation
- By department
- By account
- By job
- By voucher or batch number
- By batch

### Real-time Integration
- Purchasing
- Job Scheduling/Costing
- Multiple Company
- General Ledger
- Foreign Currency

### Computerized Checks
- Multiple bank control
- Maximum check amount
- Selected by vendor, due date, discount due date, specials
- Trial payment register
- Check print restart capability
- Check registers
- Void check processing

### Manual Checks
- Handwritten check entry
- Reverse and void processing
Accounts Receivable

Expandable ACCOUNTS RECEIVABLE facilitates control of customer accounts from invoicing through cash application and credit memo processing.

Online account inquiry is available for rapid customer credit checking and account analysis.

Aged accounts receivable reporting with user definable aging columns aids collection.

Cash application has split check capability to apply amounts to one or more accounts. Unauthorized deductions may be automatically invoiced back to the customer.

MODULE FEATURES

**Invoicing and Credit Memo Processing**
- Automatic posting from Sales Order
- Option to invoice all shipments for a sales order
- Option to invoice all shipments for certain order classes based upon customer flag
- Non-shipment related invoice/memo generation
- Term discounts on net merchandise or gross amount
- Due dates automatically calculated
- RMA restocking charges
- Expense distribution, including:
  - Automatic distributions based on SO
  - Multiple distributions
  - Multiple company distributions
  - General ledger account validation
- Entry of prepaid check ID or credit card information
- Multiple user-defined fields and notes

**Invoice and Memo Printing**
- Customized print format available
- New or old invoices/memos
- Range of invoices/memos
- Range of salesman, order takers, invoice originators
- Option to print serial numbers and lot numbers
- Line, invoice and standard comments

**Credit Card Processing**
- Bankcard advice printing
- Integrated programs available for online authorization and clearing house transactions

**Batch Control Registers**
- Includes complete general ledger distribution

**Invoice Registers**
- By Invoice, Customer or Customer PO
- Detail or summary data

**Recurring Invoices**
- Begin and ending fiscal month control
Accounts Receivable (continued)

*Invoice File Maintenance Editor*
- Change prices, due dates, terms, hold status, cancel invoice

*Sales Order Data Control Reporting*
- Shipped not invoiced and returned not credited
- RMA status

*Credit Management Capabilities*
- Customer account inquiry
- Aged accounts receivable reporting (user-defined aging periods)
  - By due date or invoice date
  - Detailed or summary option
  - By customer ID, customer name
  - Current or end of fiscal period
- Automatic credit hold flag update based on:
  - Credit limit criteria
  - Aging deterioration criteria
  - Both aging and credit limit criteria

*Finance Charge Calculation*
- User control of percentage rate and minimum charge
- Controllable by customer

*Statement Generation*
- Customized print format available
- Aged by due date or invoice date
- Selected or all customers

*Flag to Bypass Customer Statement Cash Application*
- Multiple bank control
- Miscellaneous cash (non-AR related) distribution
- Reconciling application with miscellaneous write-off
- Browse to find customer by number or alpha search name
- Split check cash application capability
- Parent check applied to multiple sold-to accounts
- Check correction capability
- Credit memo write-off of application discrepancies
- Deduction charge back with comments and automatic invoicing
- Discount monitoring with grace days feature
- Partial payment control
- Check reversal if cash misapplied

*Cash Management and Control*
- Deposit slip printing with ABA number
- Unapplied cash control
- Batch balance control including complete general ledger distribution
- Cash forecasting (user aging selection)
- Supports "remit-to" address for lock box processing

*General Ledger Transaction Tracking*
- By department
- By account
- Batch
- Invoice number

*Real-time Integration*
- Sales Order
- General Ledger
- Multiple Company
- Foreign Currency

Use Remittance Entry to post payment against an account
Multiple Company

Expandable MULTIPLE COMPANY maintains the information required to control multiple company financial activities and provides functions to enter and control inter-company journal vouchers and create multiple company financial comparisons.

The Expandable Multiple Company system is closely integrated with the General Ledger function.

MODULE FEATURES

Company Parameter Maintenance
- Key financial system parameters for each company
- Default department/account numbers
- Overrides system-wide manufacturing/financial parameters

Inter-company Journal Vouchers
- Manual Journal Voucher entry
- Recurring/standard journals
- Automatic reversing option
- Skeleton/template journals

Impact on Other Systems
- General Ledger account editing includes company + department + account

General Ledger
- Chart of accounts for each company
- Financial reporting for one or a group of companies

Accounts Payable
- Vouchers controlled by company
- Distributions to one or many companies on one voucher with automatic offsetting inter-company entries
- Automatic inter-company transfers

Inventory Control
- Company control by storeroom

Purchasing
- Vendor master carries vendor’s default company, expense department, expense account
- Company control for each
- Purchase Order detail line

Job Scheduling/Costing
- Company control via storeroom

Sales Orders
- Customer master carries customer’s default company, sales department, sales account
- Company control for each Sales Order detail line

Accounts Receivable
- Invoice controlled by company
- Invoice distributions to one or many companies
- Automatic inter-company transfers
Financial Reporting

Expandable’s Financial Reporting package combines the familiarity of Excel with the power of Microsoft Reporting Services to deliver easy-to-create financial statements that can be customized to meet the unique requirements of your organization.

**TEMPLATES**

To jump start your financial reporting, the Expandable GL Content Pack delivers a number of pre-packaged reports based on a standard chart of accounts. Included is pre-configured balance sheet and income statement account type classifications that can easily be modified or built upon to meet your exact financial reporting needs.

Gain immediate results with pre-built templates for generating the most common financial reports:
- Income Statement
- Balance Sheet
- Cash Flow Statement
- Expense Analysis
- Budget vs. Actual

Templates are easily modified so you can customize reports with your own branding imagery, data requirements and account classifications.

All financial report templates follow the same GL Account structure, making it easy for your finance and accounting team to understand and follow consistent fundamental logic when building and customizing reports.

**FUNCTIONS**

Expandable provides pre-built Excel functions used for building and accessing financial data for common and extended financial reports.

Build your own Excel reports to expand your financial reporting and generate deep real-time visibility into your broader financial environment, including key ratios and metrics.

The Expandable GL Content Pack also includes the following four functions:
- GL Functions Month-to-Date
- GL Functions Year-to-Date
- GL Functions Budget
- GL Functions Information

With pre-built Functions, Analysis Sets and Templates of the most common financial reports, your organization will quickly gain real-time visibility of key financial data with boardroom-quality financial reports.

**ANALYSIS SETS**

Analysis Sets provide a simple drag and drop tool that you can use to pull bulk financial data into Excel for viewing and analysis. Simply drag an Analysis Set to an Excel worksheet and corresponding data is brought into the spreadsheet in pivot table form or listed for analysis.

Your spreadsheet layouts remain intact and your data is current and accurate each time you open a report file because the data is linked directly to your Expandable ERP database.

**Distribute Financial Reports**

Using BizBroadcast, you can share your real-time financial reports with key personnel in a range of common formats, including Excel, PDF, HTML and CSV.

Automating the delivery of timely, actionable information assures your reports are sent to the right people at the right time while increasing productivity by reducing the finance workload.

- Automate delivery of entire workbooks or designated worksheets to one or many recipients
- Recipient-specific format and delivery
- Automate delivery for any type of report
- Utilize single excel template for multiple report generation
- Alerts and conditional delivery
- Leverage existing spreadsheets

**Pre-built Templates, Functions and Analysis Sets help you generate immediate, boardroom-ready results.**
Standard and Ad-hoc Reporting

Query By Example (QBE)

Authored by Expandable Software, Inc., QUERY BY EXAMPLE (QBE) is an unparalleled ad-hoc search and report tool that provides every user the ability to easily find information in Expandable using the same familiar screen used to add or modify data.

All Expandable editor programs (screens used to add and modify data) have the ability to enter QBE mode, empowering users to find, analyze and change data without having to leave the editing screen.

With Expandable’s QBE feature, the average user can easily create targeted searches and analyze information without the need for a report writer, inquiry tool or MIS person to write search criteria. This may be the most powerful customer service and expediting tool ever offered in an ERP software product.

FEATURES

Query From All Editor Screens, Including:
- Sales Order entry
- PO Entry
- BOM Editor
- Accounts Receivable
- Accounts Payable
- Purchasing
- Master Scheduling
- Inventory Control
- Parts Master
- Lot Master
- GL Chart of Accounts
- JV Editor
- Multi-currency Master
- Budget Editor

Over 80 Editors Available for Query

Query on Any Field

Simultaneously Search Using Any Combination of Criteria in from one to all Data Fields

Search Criteria
- Equals
- Not equals
- Greater than
- Less than
- List of values
- Between
- Wildcards
  - starts with
  - contains

Export Results to:
- Spreadsheet
- Text
- Email
- Print
- Fax

Gain precise inquiry results by using QBE to select multiple criteria in any or all fields

Output results to spreadsheet or other distribution vehicles
Standard and Ad-hoc Reporting (cont.)

**Crystal Reports™**

Expandable brings industry-standard reporting and decision support to the manufacturing floor with Crystal Reports from Business Objects™.

To satisfy the wide-ranging needs of most operations, over 250 pre-written reports are included with each Expandable implementation.

**Over 250 standard reports**
- Accessible from pull-down menu in any Expandable screen
- Encompassing all facets of enterprise reporting

**Automated formatting**
- Sub reports
- Conditional
- Summary
- Cross-tab
- Form
- Drill down
- OLAP
- Top N
- Multiple details
- Mailing labels

**Interactive design elements**
- Charts
- Drill-downs
- Alerting
- Parameter prompts
- Hyperlinks
- Geographic mapping
- Field highlighting
- Running totals
- Top N
- Bottom N
- Sorting

**Export reports to:**
- Spreadsheet
- Text
- Email
- Fax

For mission-specific reporting, Crystal Reports includes powerful software wizards that help both novice and average users quickly develop highly-interactive custom reports enhanced by logos, pictures and three-dimensional charts.

Microsoft ODBC functionality enables unlimited custom and ad-hoc reports that incorporate information from other databases or applications.

**Standard Inquiries**

Equipped with more than 100 Standard Inquiries covering the entire system, Expandable users gain instant access to information through easy-to-use pre-built views.

Each inquiry provides as many as six alternative search criteria to locate important data. With the powerful drill-down function, users enjoy the option to simply click on data to explore underlying elements.

*Hundreds of pre-built queries come with Expandable*
Report Manager

The REPORT MANAGER integrates custom and standard reporting within Expandable, where user rights to access and execute reports are maintained by system security.

With a practical menu tree layout and interactive settings editors, Report Manager simplifies custom reporting by providing an easy-to-use framework for navigating through and running reports.

Expandable standard reports can be copied, then modified to individual specifications, making it easy to create efficient custom reports that deliver exact information. Adjust and save default settings and prompts on pre-existing reports to streamline execution.

Custom reports are conveniently stored along with standard reports, and are executed whether or not Crystal Reports is loaded on individual desktops.

MODULE FEATURES

- Add a custom report template (created by Crystal) to the Expandable standard reports menu
- Create Selection Criteria and Questions tabs, the same as Expandable standard reports, with defaults for all questions
- Insert a custom report into an existing Report Group (Accounts Payable, Inventory Control, etc.) or create a new Custom Group (Shop Floor Reports, Month End Reports, etc.)
- Control execution of custom reports through the Expandable Security System.
- Duplicate existing Expandable reports for customization, or modify standard reports and their corresponding prompts or defaults
- Change defaults for existing questions on the Questions tab

Organize your custom and standard reports in one easy-to-access location
Expandable Analytics

Expandable Analytics is a highly interactive business analysis tool that combines drag-and-drop simplicity with the power of pivot tables to present Expandable data in meaningful views for management examination and analysis.

Using simple tree-like navigation, pre-built business analytic functions are grouped into four major business categories with relevant data elements ready to be arranged into multi-dimensional analysis views.

With an extremely intuitive drag and drop interface, Expandable Analytics provides the ability to slice and dice information easily and efficiently across multiple product lines, regions, date ranges, customers, vendors and more.

**MODULE FEATURES**

**Pre-built Business Analysis Functions**

Pivot Grids are available for primary business functions and grouped under four major categories:

- **Sales**
  - Billing History
  - Booking History
  - Backlog
  - Sales Orders
- **Finance**
  - AR Aging
  - AP Aging
  - AR Invoices
  - GL Detail
  - GL Actual vs Plan
  - AP Open Receipts
- **Quality**
  - RMA Analysis
  - Vendor Performance
  - Serial Number Analysis
- **Manufacturing**
  - Purchase History
  - Purchase Orders
  - Stock Status
  - Job Status
  - Inventory Activity

Visualize your Expandable transaction data using an array of charts, graphs and layouts

Easily change a report's visual layout to examine data from multiple perspectives to gain clear understanding of how various business components effect your bottom line.

**Customize Using Data Filters**

Gain visibility and insight into the information specific to your business by applying filters that customize data views to isolate your key data elements.

Custom views can be saved upon exit and restored in subsequent sessions.

**Eliminate Static Reports**

Just one interactive view can replace dozens of canned reports while providing interactive drill-down capabilities to easily access source detail.

**Drill Down to Underlying Data**

Double-click on any data cell to access source data in a grid containing detail for that cell.

**Export to Multiple Formats**

Sort underlying data by any column and print or export data to various formats, including email, spreadsheet, PDF, HTML and more.

Pre-built Business Analysis Functions

Each analysis grid provides user access control through the Expandable User Rights module to control individual access to corporate data.
Executive Information

Expandable’s EXECUTIVE INFORMATION module is a simple but powerful business intelligence tool that provides company decision-makers with quick snapshots of key business performance information.

Summary data is extracted from Expandable and other third-party databases in real-time to deliver up-to-the-minute visibility of key performance indicators. With the ability to easily monitor critical business metrics, managers throughout the enterprise gain more timely access to the key decision criteria that lead to higher productivity and increased profitability.

MODULE FEATURES

The Executive Information module is comprised of eight Summary tabs (user-defined) and a Setup tab.

Up to ten user-defined metrics can be displayed per tab, with corresponding links to more detailed information (reports, graphs or attachments).

The Executive Information module is delivered with the following pre-built metrics:

- Open AR
- Open AP
- On Hand Inventory $
- Inventory Items with Negative On Hand Quantity
- Total WIP $
- Sales Backlog
- SO Items beyond Due Date
- Bookings MTD
- Sales MTD
- Open PO $
- Receipts MTD

Customize your Executive Information dashboard using the configuration screen.

Place up to ten metrics under each customizable tab and include links to underlying detail.
Expandable Alerts

EXPANDABLE ALERTS is a versatile productivity tool that monitors your data and systems to identify and act on critical, time-sensitive business events. Expandable Alerts saves thousands of dollars in lost revenue and hundreds of hours in lost productivity by helping identify and prevent fires before they start. As events occur, Expandable Alerts keeps your operation running smoothly by simultaneously:

- sending out alert messages
- dynamically updating databases
- scheduling and delivering reports
- executing pre-defined tasks

Expandable Alerts also saves your organization time and materials by automating repetitive processes and initiating timely delivery of important business information.

Whether it’s delivering email notifications and updates to customers and supply chain partners, or monitoring the status of your data to alert management of exceptions, Expandable Alerts is a proactive tool that ensures your management, customers and supply chain partners never have to say “If only we had known.”

Distribute Forms Electronically

Eliminate printed forms by turning your distributed documents to electronic format for email or fax.

Expandable Alerts transforms your accounting statements into electronic messages that can be sent directly from Expandable II to customers and business partners.

Expandable Alerts saves you time and energy by eliminating the need to produce forms, stuff and address envelopes, and purchase postage.

Automate these common documents:

- AR Invoices
- Account Statements
- Shipment Notifications
- Sales Order and PO Confirmations
- Sales Order and PO Change Confirmations
- Engineering Change Orders/Notices

Schedule Regular Reports

In addition to alerts messaging, Expandable Alerts provides the ability to schedule and generate frequently needed reports such as:

- Daily Bookings
- Weekly receivables reports
- Daily credit hold updates
- Monthly reconciliation reports

Expandable Alerts’ integration with Crystal Reports enables you to create pre-determined schedules and recipients for reports that you produce on a recurring basis.

Expandable Alerts distributes these reports via mail, fax, PDA, FTP, and the web.

Eliminate Common Problems:

- Missed Forecasts
- Late Shipments
- Dropped Leads
- Stock Shortages
- Overdue Invoices
- Past Due Receipts
- Customer Service Deadlines
Configuration Control

Expandable CONFIGURATION CONTROL is used by companies who manufacture standard assemble-to-order products with customer-selected features and options. Configuration Control provides faster, mistake-proof quoting and order entry while eliminating the engineering overhead involved in maintaining hundreds or thousands of custom bills of material.

Configuration Control has standard and unique product configurations, allowing you to sum up the costs of their components, set configuration prices, review configuration gross margins and check availability of configuration options.

**Rules Table**
- Option ID
- Comparison Option
- Comparison Rule
  - Exclude
  - Include
  - Include From List
  - No Rule
- Message Type
  - Stop
  - Warning
  - Inform
- Message Text
  - User defined

**Configuration Purge**

**Modell/Features Definition**
- User controlled display sequence
- Control minimum and/or maximum quantity requirements
- Effectivity date control
- Feature status codes
  - Pre-release, approved, on hold or canceled
- Interface to parts master
- Interface to model and feature comments

**Available to Promise**

**Capability to Copy the Configuration to the Bill of Materials**

Create Planning Bill for the Model
Option for MPS Planning Purposes

Features and options for a product are predefined, allowing sales representatives and customer service personnel to enter accurate, timely quotes and sales orders without the need for engineering to review each item.

Configuration Rules can be defined for including or excluding options based on other options selected for inclusion in a configuration. Each rule includes an Informational, Warning or Stop Message that is displayed when the rule is executed and an inclusion or exclusion exception is found.

**MODULE FEATURES**

**Configuration Definition**
- Construct standard product configurations
  - Select from predefined features and options
  - Copy and edit existing products
  - Configure new products
  - Product pricing and cost computed
  - Review and edit configuration
  - Review price and costing of configurations
- Integrated with sales order entry
  - View and sell a standard product configuration
  - Construct a saleable unique product configuration
  - Option to display available to promise (ATP) at all levels
  - Option to rollup standard cost for complete configuration
- Product price file interface
- Gross margin analysis
- Integrated user-defined comments on configuration
- Effectivity date control
- Configuration status codes
  - Pre-release, approved, on hold or canceled

**Reporting/Inquiries**
- Feature/options
- Options where-used
- Product configurations

**Feature/Options Definition**
- User controlled display sequence
- Control minimum and/or maximum quantity requirements
- Effectivity date control
- Default option pricing
- Option type print control
- Print on sales order with price, with-out price or do not print
- Pick type options
  - Define option at shipping or kitting (backflush)
  - Kitting storeroom
  - Deliver to operation when complete
  - Scrap factor
  - Lead time offset
- Option status
  - Pre-release, approved, on hold or canceled
- Option can be another configuration
- Interface to parts master
- Interface to feature and option
- Comments file

**Real-time Integration**
- Inventory Control
- Product Data Control
- Job Scheduling/Costing
- Master Scheduling
- Sales Order
- Foreign Currency
Sales Order Management

Expandable’s SALES ORDER MANAGEMENT system controls all phases of customer order processing including quotations, forecasts, committed orders, available to promise, shipments and return authorizations.

Real-time automatic credit checking at both order entry and shipment time ensure proper credit control. Multi-level pricing allows the pricing structure to be established at the customer and/or part level.

Serial numbers are tracked for both shipping and customer returns. Sales history is maintained by customer and part number. Sales Order integrates with Configuration Control to create unique product configurations at order entry time.

Inquiries display customer status information including customer master, sales order, sales history, AR invoice, AR check, serial number and job data.

**MODULE FEATURES**

**Customer Order Entry**
- Automatic or manual Sales Order number assignment with up to 998 lines
- Browse to find customer by number, alpha search name, phone number, city, zip code
- Bill-to, sold-to and ship-to customer structure
- Automatically process one time bill-to/ship-to customers
- Review customer notes and comments
- Credit checking at order entry and shipment time
- Both line and order discounts
- Tax and VAT codes by line
- FOB, carrier, freight payer, shipping notes
- Available to promise display
- Product price and customer part file integration
- Schedule shipments from stock or directly from a manufacturing job
- Part and non-part items, unit of measure (UOM) conversions
- Multiple order types, including:
  - Normal
  - One-time
  - RMA
- Multiple order classifications table under user control (e.g. transfer, distributor, overseas, sample)
- Multiple order status, including:
  - Forecast
  - Quotation
  - Hold
  - Open
- Sales/COGS account default by product line or order classification
- Line, order and standard comments
- Partial shipment flag, order and line hold with reason codes
- Pending ECN warning
- Sales order review/edit capability
- Entry of prepaid check deposits or bank card info
- Multiple user-defined fields and notes
- Attachments
  - Documents
  - Web addresses
- Sales Order Editor

**RMA Processing**
- Exchange/cross shipment
- Replacement
- Repair/return
- Automated creation of shipment sales order and rework job
- Expected serial number tracking

**Change Order Processing**
- Addition of new lines
- Change terms, quantity, ship dates, prices, descriptions, part, comments and accounting distribution

**Sales Order Printing**
- Print on standard form or customized format
- New, changed and old sales orders and quotations
- Range of sales orders, sales man and order takers
- Option to print sales orders on hold
- Line, order and standard comments

Enter new customer orders using the Sales Order Editor
Sales Order Management (continued)

**Serial Number Tracking**
- Purchase order receiving
- Job completion
- Sales order shipping
- RMA returns
- Backflush kit issue
- Component Serial Number to Assembly Serial Number cross reference
- Detail transaction history
- Multiple user-defined fields and notes
- Attachments
  - Documents
  - Web addresses

**Shipments/Return Entry**
- Option to ship complete (all lines or by date range)
- Lot number, serial number entry and tracking
- Early and partial shipments control
- Automated kitting of backflush operation when shipping from job
- Ship by line or part
- Pending ECN warning

**Parts Availability Analysis**
- From master schedule ATP or real-time calculation

**Daily/Monthly Transaction Registers**

**Customer Part File Maintenance**
- Sales approval status
- Lead time, order quantity, unit of measure conversion
- Serial number required
- Quote price and quantity
- Last sales order price, quantity and date
- Customer, customer part and part
- Multiple user-defined fields and notes
- Attachments
  - Documents
  - Web addresses

**Customer Master File Maintenance**
- Both customer number and alpha search name
- Sales tax and VAT codes, default terms of sale
- Resale ID, default pricing table
- Default carrier and FOB for control of title passage
- Salesman, region, SIC, NAICS, customer classification, credit manager, freight bill-to fields
- Subject to service charge, percent and dollar minimum
- Multiple selling and accounts receivable contacts, phone and fax fields
- Flag to automatically place sales orders on hold for credit release
- Bank code and currency code
- Serial number required flag
- Credit limit, rating, DUNS rating and date
- Customer status flags
  - Approved
  - Credit limit hold
  - Past due hold
  - Special hold
  - No sales orders
  - Inactive
- Multiple user-defined fields and notes
- Attachments
  - Documents
  - Web addresses
Sales Order Management (continued)

Sales and Booking Analysis

Expandable’s SALES AND BOOKING ANALYSIS files are useful for generating sales and commission reports by sales rep, region, product line, currency, etc.

Crystal Reports provides users the ability to access these files and sort and print data for specific user needs, for example, bookings by product line.

Sales Analysis

- Tracking by:
  - Customer
  - Part
  - Sales order class
  - Product line
  - Year/month
  - Region
  - Salesman
  - Sales Account

Inquiries

- Customer Bookings:
  - Customer
  - Part
  - Product Line
  - Salesman
  - Year/month

Booking Analysis

- Tracking by:
  - Customer
  - Part
  - Salesman
  - Year/month
  - Region
  - Real-time Integration

Sales History

- Customer
- Customer PO
- Part
- Salesman

Volume Pricing

The VOLUME PRICING module provides pricing (discounts) based on sales volume from a designated time period.

The Volume Pricing Editor maintains special pricing for parts sold through the Sales Order Editor to customers with a particular Customer Master table Class Code. Prices are controlled by Part ID, Class Code, a beginning fiscal year/month, and an ending fiscal year/month.

Product Pricing File

- User-defined tables of pricing for individual parts, customers, promotions, overseas, etc.
- Quantity break or percent-off pricing
- Define by effective dates, foreign currency
- Price override approval in sales order entry

Volume Pricing data includes:

- Begin Month
- Begin Year
- End Month
- End Year
- Sales Range
  - Month
  - Quarter
  - Semi-annual
  - Annual
- Five levels of sales volume
- Unit Price

Real-time Integration

- Accounts Receivable
- Inventory Control
- Lot Tracking
- Configuration Control
- Multiple Location
- Job Scheduling/Costing
- General Ledger
- Multiple Company
- Foreign Currency
- Master Scheduling
- Engineering Change
Expandable ERP Integration for Salesforce CRM

EXPANDABLE ERP INTEGRATION FOR SALESFORCE CRM connects your Expandable ERP business infrastructure with the world’s leading customer relationship management (CRM) product for a 360 degree view of customer activity across the entire enterprise.

With bi-directional integration between Expandable and Salesforce CRM your organization will enjoy a complete front and back office solution providing visibility and control of customer management processes from customer acquisition through product delivery and support.

The Pervasive Data Integrator engine (certified by salesforce.com) provides extract, transform and load (ETL) functionality for integration and data synchronization.

**FEATURES AND BENEFITS**

Bi-directional integration between Expandable ERP and Salesforce CRM:

- **Customer Master**
  - New Customer
  - Changed Customer
- **Customer History**
  - Payments
  - Payment History
- **Customer Activity**
  - Last Order
  - YTD Totals
- **Invoices**
  - Open/Closed Invoices
- **Sales Orders**
  - Order Status
  - Order History
- **Serial Numbers**
  - New Items
  - Changed Items

View sales orders, invoices, account activity and assets in Salesforce CRM.

Update customer master information directly through Salesforce CRM.

Access the full range of Salesforce CRM reporting tools and dashboards displaying both Expandable and Salesforce CRM data.

**Choose Your Integration Touchpoints**

1. **Customer Base Information Package**
   - Expandable Customer Master to Salesforce Account Master
   - Customer Activity and Sales History included in package

2. **Sales Order and Invoice Package**
   - Expandable Sales Order Master/Detail and Invoice Master/Detail made available through custom objects linked to end-customer accounts

3. **Serial Part Package**
   - Expandable Serial Parts shipped to customers are recorded in the Salesforce asset object providing a view of serial products the end-customer purchased and linkage to service cases

4. **Expandable Customer Insert Package**
   - Salesforce Account transferred to Expandable Customer Master
   - Customer inserted “On-Hold” in Expandable
   - Requires (SF01) to be in place

5. **Expandable Parts Master and Customer Price Lists**
   - Expandable Selling Parts and Price List data synchronization with Salesforce Products and Price Books keep products and pricing for sales opportunities aligned with Expandable

6. **Opportunity to Sales Order**
   - Salesforce Opportunity w/Products converted, validated and inserted into the Expandable ERP for order fulfillment complete with opportunity handling options Close-Win, No Action etc.
   - Requires packages 1, 2, 4 and 5 to be in place
   - Order on hold for fulfillment review
Product Data Control

PRODUCT DATA CONTROL provides an organized structure for the documentation and maintenance of current and historical configurations on all assemblies in the manufacturing process. Bills of Material are identified as engineering controlled, released to production or both.

Identify components that make up your top level assemblies using the Bill of Materials Viewer

Expandable’s unique Data Exception Reporting enhances Bill of Material accuracy. Product Data Control goes beyond the norm by incorporating material planning reports that address component availability (can I build it?). The standard costing system supports the development of new standard costs and the review of their impact on inventory before updating current standard cost.

**MODULE FEATURES**

**Bill of Material Maintenance**
- Unlimited annotation of component reference designators
- Browse by assembly or component
- Single level bill display while entering/changing bill of material

**Planning Bills of Material**

**Bill Copy Capability**
- Copy entire bill of material, specific type or effective date
- Option to include component references

**Bill of Material Viewer**
- Drag and drop parts and assemblies from Parts List window onto any component or assembly in BOM View window
- Easily generate BOM from scratch using drag and drop
- Delete selected component(s) or assemblies from a BOM
- Edit BOM with a double click on the component line
- Produce single level cost roll up report from within BOM viewer for estimating and what-if scenarios

**Product Structure Provides**
- Single level BOM (costed option)
- Indented BOM (costed option)
- Where-used, single level
- Where-used, indented with cumulative lead times
- Option to update cumulative lead time on parts master file

**Engineering Data**
- Drawing item number
- Annotate component references for revision level and ECN
- Effectivity start and stop dates, serial numbers

**Manufacturing Data**
- Quantity required up to 6 decimal places
- Default kitting storeroom and deliver to operation
- Lead time offset
- Scrap factor

**Component Availability and Shortage List**
- Summarized components requirements
- Netted against on-hand inventory, WIP, purchase orders, receipts, kits
- Purchase orders, jobs and kits detailed
- Indented or single level
- Option to report projected shortages only
- Can process multiple assemblies with a priority control code
- Option to explode buy parts
Product Data Control (continued)

**Product Costing**
- Build new standards (cost fields to 6 decimals)
- Current vs. new costed stock status reporting
- Roll-up standard costs, all or single assembly
  - option to include scrap and/or yield
  - roll-up configurations with no bill
- Re-valuation of inventory and cost variance analysis for GL booking

**Data Exception Audit Reporting**
- Zero cost part, zero lead time part
- Inactive, obsolete or pre-released part in BOM
- Inactive or obsolete part with stock on hand
- Make part with no BOM, buy part with BOM
- Part status “P” on part master (pre-release)
- Buy part with no where-used
- Multi-location is yes, no multiple location records
- Planning lead time greater than cumulative lead time
- Multi-location is no, multiple location records exist
- No new standards record
- MRP flag should be changed
- Planning BOM with stock
- Planning BOM with parent
- Planning bill component with no parent
- Planning bill component with invalid parent
- Planning bill component with many parents
- Negative lot on hand
- Lot control is yes, no lot records
- Lot control is no, lot records exist
- No activity in six months

**Real-time Integration**
- Inventory Control
- Purchasing
- Job Scheduling/Costing
- Shop Routing
- Materials Management (MRP)
- Master Scheduling

View, edit and make mass changes to your BOMs using the Bill of Material Browser.
Engineering Change Management

ENGINEERING CHANGE MANAGEMENT supports the planning and tracking of all phases of the engineering change process from the time a change request is originated, through approvals, to final release and implementation. A perpetual history is maintained of the entire engineering change process.

Real-time access is provided to inventory, purchase order status, sales order status, work-in-process and transaction history, giving visibility of critical data that enables informed approval decisions.

**MODULE FEATURES**

**ECN Entry**
- Automatic or manual number assignment
- ECN Status:
  - Requested
  - Awaiting approval
  - Released
  - On Hold
  - Cancelled
- Originator, Change Analyst, Type, Reason, Costs, Savings
- Unlimited Description and Reason Text
- Dates for:
  - Originated
  - Released
  - Effective
- Approval Tracking:
  - Approver
  - Required
  - Status
    - Pending
    - Approved
    - Rejected
  - Due Date
  - Date Reviewed
  - Date Approved
- Approved By
- Affected Parts Tracking
  - Current Revision
  - New Revision
- Multiple user-defined fields
- Attachments
  - Drawings
  - Documents
  - Web addresses
- Documents
  - Manufacturing Procedures
- Automatic updating of the Parts Master table
- Pending ECN value at beginning of approval cycle
- Automatic update of Parts Master table
  - Drawing Revision
  - ECN
  - ECN Effective Date
- Values at time of Release
- Retention of historical data

**Approval Groups**
- Assign approvers to a group
- Specify whether approval is required
- Predefine approval lead time
- Email addresses

Record the characteristics of engineering change orders using the ECN Editor
PLM Integration Adapter

Expandable’s PLM INTEGRATION ADAPTER creates a synchronized data link between the Expandable ERP system and third-party product lifecycle management (PLM) packages.

Your PLM system maintains control of the Engineering Change Order (ECO) process, electronically communicating change requirements for fast review and approval before transferring approved changes into Expandable.

Integration provides enterprise-wide access to the most current engineering data, delivering real-time visibility of product data changes, vendor status and associated documents.

**MODULE FEATURES**

**Auto or Manual Processing**
Changes to Expandable data fields are processed in one of three user-defined modes:
- automatic
- manual single file
- manual batch file

In automatic mode, the adapter monitors a watch folder for new files to process. When a change arrives, the program reads the file, verifies the data, and uploads to Expandable, making changes available in real time.

In manual mode, uploads are initiated by the user in either individual or batch file selections.

Security settings for access to the release process are recorded in the Expandable Rights Editor.

**Bill of Materials**
- Assembly ID
- Component ID
- Drawing Item Code
- Required Quantity
- Start Date
- End Date
- Notes
- Reference Designators

**Vendor Master**
- Vendor ID
- Vendor Name
- Address
- PO Contact
- PO Phone Number
- Fax Number
- Vendor Status

**Vendor Contact**
- Vendor ID
- Last Name
- First Name
- Title
- Address
- Phone Number
- Fax Number
- Email
- Web address

**Item Master**
- Part ID
- Type
- Description
- Unit of Measure
- Rev. Level
- ECN Number
- Effectivity Date
- Pending ECN
- Preferred Vendor
- Eight User Definable fields
- Weight
- Volume
- Substitute Part ID
- Product Line, Status
- Part Class
- Standard Cost
- Lead Time

**Vendor Part**
- Part ID
- Manufacturer’s Name
- Manufacturer’s Part ID
- Vendor ID
- Vendor Part ID
- Buy Status

Define parameters and set manual or automatic processing of import files from the Operations screen.
Engineering Bills of Materials

Expandable’s ENGINEERING BILLS OF MATERIALS (BOMs) module provides a separate set of tables for the development of new Bills of Material, Parts Masters, and Vendor Parts, without impacting the production database. Existing information in the production database can be copied over to populate the Engineering tables and may be periodically updated.

When released, new Engineering Bills and their corresponding Parts and Vendor Parts are transferred to the production database and the appropriate files are updated.

Used in tandem with the Engineering Change Management module, Expandable’s Engineering Bills of Materials module facilitates a dynamic and efficient product lifecycle management process.

MODULE FEATURES

**Engineering BOM Editor**
Add, Change, Delete Engineering BOMs. Component References can also be entered.

**Engineering BOM Viewer**
Single level or indented Bill of Materials with drag and drop capability.

**Engineering BOM Cost Roll-up Report**
By selecting include costs, the report lists only the Single Level but will include the component level costs.

**Copy/Update Function**
Copy Engineering BOMs to the Manufacturing tables, along with their corresponding Parts and Vendor Parts, including notes. New parts or vendor parts will be added to the Manufacturing tables (requires security rights).

**Additional Features**
- Copy Manufacturing BOMs to Engineering for a single level.
- Engineering Parts Editor
- Engineering Vendor Parts Editor

Assign new engineering BOM attributes using the Engineering Bill of Material Editor
Expandable’s strategic partnership with AssurX provides customers an integrated platform for building quality management functions and processes that can be configured to fit the specific needs of companies operating under government and industry-regulated quality standards.

Expandable ERP Integration for AssurX CATSWeb includes four core quality management functions as an out-of-the-box startup solution:

- Supplier quality
- Non-conformance
- Customer complaints
- Corrective and Preventive Action (CAPA)

Because CATSWeb is a core platform, quality functions can be validated against FDA compliance and other industry requirements.

With integration between Expandable and CATSWeb, data remains consistent between the two platforms to facilitate the full range of additional functions that can be added to the out-of-the-box startup package as a company’s quality management requirements grow, including:

- Document Management
- Change Control
- Training Management
- Device History and Batch Records
- Audit and procedures management
- Regulatory Reporting (including eMDR)
- Compliance Management

Integration at key touch points between Expandable and CATSWeb maintains data integrity and provides reportable visibility of quality issues and details

**Regulations and Standards Compliance**
- FDA Compliant: 21CFR Part 11, 21 CFR part 820, GMP, ISO and more
  - Electronic signatures and approvals
  - Record archiving (audit trail)
  - Quality record change history and highlighting
- NERC and FERC compliant
- Financial regulations compliant

**Corrective Action / Preventive Action Selection**
Selection and differentiation between a CAR or PAR
- Relationship to NCR, supplier quality or customer complaint
- If not related to other issue (observation etc.), then:
  - Parts/Product (with lot and serial number) from Expandable’s Parts Master
  - Option to capture Manufacture Vendor if related
  - Failed Quantity out of Total Quantity
  - NCMR Incidents: Non-conformance, Change Requests, Defects, Deviations, Failures, etc.

**Manufacturer Quality Issue Management**
Ties parts/product (with lot and serial number) to Expandable's Parts Master
- Job or process related to product with operation code(s)
- Optionally capture Manufacture Vendor if related
- Customer complaints Medical
- Capture customer reporter
- Product (with lot and serial number) detail
- Include the Customer’s Part Cross Reference from SOFCP when available
- Include cross reference to Customer’s Order from SOFOM when applicable
- Complaint detail
- Patient & doctor action detail
- Capture complaint processing requirements: reasons, medical reviews (interventions and outcomes) and FDA reporting requirements

**Security Controls**
- Sophisticated access restrictions, including both record and field level based on groups, departments, personalities and/or employees

**Features and Benefits**
- Built-in dashboards
- Detailed analysis and decision-making
- Fully configurable point-and-click graphical user interface (GUI)
- Point-and-click administration
- Full text search
- Includes ready-to-use forms and best practices workflows
Quality Events and Actions

Expandable’s optional QUALITY EVENTS and ACTIONS module is designed to provide quality-conscious manufacturers an across-the-board option for tracking and logging of quality issues that impact their direct business, their supply chain and customers.

Use the Quality Event tab to log the details of a quality event and assign one or more actions designed to contain, investigate, resolve, validate, prevent and close the event issue.

Whether the result is a simple quality process or more involved procedure like an eight disciplined quality resolution process, the Quality Event tab provides a method for designing and codifying corrective actions.

MODULE FEATURES

Events can be Categorized by General Event, Event Reason and Event Resolution with an associated Status and Prioritization, each with a user-defined label that’s validated with dictionary values.

The module’s simple user-defined structure allows the system to support a wide variety of defined events including RMA, Quality Inspection, MRB Finding, MFG Deviation, Customer Complaint, Non-Conformance, Personnel Event or others, depending on the quality assurance needs of the business.

Detailed data capture and query allows the quality manager to view quality events by any user-defined metric and create Pareto charts over those values to detect trends by product, process, customer, supplier, employee, reason or resolution.

Add notes or attachments and assign the Event and/or Action to a particular primary/alternate person or group to work the details.

Information in Events and Actions can be reviewed and analyzed to identify trends, measure results and gauge the effectiveness of actions.

Events can be directly linked to integrated ERP data for the “who, what, when and where” of a quality event.

Who:
- Customer for tracking customer driven events
- Supplier/Vendor for tracking supplier quality events
- Employee for tracking training or other internal events
- General Other user entered person

What:
- Sales Orders
- RMA
- Work/Rework/Job Orders
- Purchase Orders
- Inventory
- Product Quality Parameter Measurement
- General Other user entered process

Product:
- Part Master with any associated product traceability
- LOT ID
- Serial Number(s)

Likewise, the Action(s) attached to the Event can also be linked to the who, what, when and where the responsibilities lie for resolution of the action. Action records linked to an Event are summarized in the main event window grid for ease of outlining the actions taken toward closure of a quality event and so users can drill into the action details with a simple click of the mouse.
Quality Part Parameters

The optional QUALITY PART PARAMETERS module defines specification parameters (Min/Max/Ave) for parts, with the ability to define measurement instructions for common or like parameters. Users gain the ability to electronically capture multiple measurements against a product's defined parameters with general in or out of min/max specification results and tolerances as compared to average typical specification.

The Quality Part Parameters module provides an engineering and/or production quality assurance organization electronic capture with the capability to pre-define a product's specifications and instructions for measurement and then collect measured inspection data, process control measurements, process audit information, final inspection data, returned product evaluation and other critical product validation information.

MODULE FEATURES

The Parameter Measurement Instruction Editor (QPEMI) allows the user to define instructions for taking accurate measurements of specified product parameters. Instructions can be classified by type/subtype, measurement device, effective date and end date. Detailed instructions for taking measurements are directly linked to specifications for inspectors, testers and quality control personnel to reference as measurements are taken over the course of a product's life cycle.

The Part Parameter Specification and Link Editor (QPESL) allows the specification of parameters linked to a PART ID and also link to a Measurement Instruction for the user making the measurement to reference.

Users can specify any number of parameters for an individual Part ID in the Part Master table and define link specification parameters (Min/Max/Ave) with units of measure and parameter symbol for parts, including the ability to link pre-defined measurement instructions common to the parameter.

Parameters can be defined for any or all of the following quality areas of inspection as required:

- Source Inspection
- Incoming Inspection
- WIP Inspection
- Final Inspection
- Post-Pack Audit Inspection

The Part Measurement Capture Editor (QPEMC) provides the means to capture physical measurements of a product at any stage and as many times as required in a product's lifecycle to track the performance history of the product as compared to its pre-defined parameter specifications.

A grid entry user interface provides an easy-to-use method to log measured values and automatically calculate tolerance performance against typical and Min/Max ranges against the part's specification for each measurement.

Grid entry values are automatically populated based on the user's initial set up of the measurement, pulling those specifications that are applicable for the radio button selection of stage for the given measurement(s) to be taken: Source Inspection, Incoming Inspection, WIP Inspection, Final Inspection or Post-Pack Audit Inspection.

Data capture allows for three standard measurements per parameter with performance calculations along with three general observation fields.

All Part Parameter editors (QPEMI, QPESL and QPEMC) allow for ample variety of user-defined fields, date fields and flags providing additional flexibility in specification, instructions, measurement data collection and reporting metrics. User fields can be configured to support free text entry or locked to a pre-defined dictionary pull down menu selection to insure consistency of data entry for reporting purposes and performance data analysis or as required indicating additional product stage measurements.
Audit Log

Expandable’s AUDIT LOG module 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.

The Audit Log module helps assure database integrity and security, and is an important component for maintaining compliance with regulatory agencies requiring audit trails.

The Audit Log module 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.

MODULE FEATURES

Audit Log Manager

Define the events you want to capture using the Audit Log Manager that creates and saves SQL Server triggers that track your audit events in the Expandable database.

Information from each captured event is stored in a history table, including before and after images of updated data:

- Operator ID and Name
- Time and date of the audit event
- Program name and table name, with the key field(s) referenced
- Workstation from which the user triggered the audit event
- Change Type (Insert, Update, or Delete)

Audit Log Viewer

With the Audit Report function, the history table can be queried, with the results printed and/or exported to HTML or XML.

Data Parameters

- Table Name
- Machine Name
- Program Name
- Date Last Updated
- Operator ID
- Time Last Updated
- First Name
- Last Name
- Middle Initial
- Change Type
  - Insert
  - Update
  - Delete

Define specific events to capture using the Audit Log Manager

View or print changes, and/or export to HTML and XML.
Advanced Security

The ADVANCED SECURITY module builds upon Expandable’s internal system security to provide extended capabilities that meet the special requirements of customers operating under guidelines set forth by regulatory agencies.

Whether or not password encryption is turned on, the Advanced Security Module provides an option to track attempts by unauthorized users to log into the Expandable application.

Attempts by authorized users of Expandable that try to run modules within the Expandable application for which they do not have security rights are also logged.

The Advanced Security module allows the System Administrator to temporarily suspend a user (e.g. deem the person inactive/locked out).

MODULE FEATURES

The Advanced Security module includes functions required for 21CFR Part 11 compliance:

- Password expiration
- User password history tracking
- Password re-use checking
- Unauthorized login tracking
- Password suspension

Adjust security parameters using the System Settings Editor
MODULE DESCRIPTION

Form Flow Designer

The Form Flow Designer is used to customize the Expandable editor screens so that workflow can be tailored to match the unique business processes of your organization.

Whether you want to standardize forms across all users and departments or allow each user the option to customize their own work area, the Form Flow Designer offers your organization the flexibility to match the Expandable screens to the way in which you manage information.

Individual users can streamline their Expandable screens by rearranging the order and size of data elements so that transactions flow smoothly from one field to the next.

Users can also remove non-essential items from data entry screens and consolidate key fields from multiple editor tabs onto a single tab so that data elements are consistent with the order in which they access and transact information.

Data field labels can be renamed and the font sizes and colors modified to illustrate the relative importance of individual data elements.

MODULE FEATURES

Create Custom Layouts of Data Elements in Expandable Editors
- Cut and paste data fields between editor tabs
  - consolidate critical elements on a single tab or customize individual tabs
- Re-label data elements in Expandable editors
  - change field name captions to match your unique business vocabulary
- Customize editor screens to streamline data transactions
  - rearrange data elements to match the transaction sequence of your business processes
  - facilitate high volume order entry by creating order-centric transaction tabs
- Increase the size of data element boxes
  - create larger boxes to gain better visibility of key data fields
  - expand the length of boxes to accommodate longer information strings
- Customize fonts, text sizes and colors
  - highlight key data elements with bold and/or colored text
  - group data elements using like font styles and text sizes
  - highlight the data that's most important to your business

Set OptimumTab Order Assignments
- Modify the path the cursor follows as you step from field-to-field using the Tab key
  - bypass low volume data elements to streamline high-volume transaction entry

Re-arrange data elements on data entry screens to highlight key fields and streamline process flow

Change labels, fonts and colors on data elements to highlight key fields and reflect your unique business vocabulary
Labor Time Collection

Expandable’s LABOR TIME COLLECTION system streamlines the capture of employee utilization data to provide visibility of labor distribution and promote efficient production.

The system provides employee Clock In/Clock Out scanning via ID badge barcode or keyboard entry, and captures deployment information as workers sign in and out of specific Jobs.

User-definable Reason Codes help manage exceptions, and workers can input the number of pieces completed during the time spent on a Job. Employees are allowed to log into multiple Jobs at one time.

The administrative function allows a manager to clock an employee in or out at the proper time or end work on a job they forgot to enter.

**MODULE BENEFITS**

**Track Labor Costs**
Gain visibility of actual labor associated with specific Job ID’s.

**Reduce Steps**
Scan directly into the system, eliminating re-entry of hand-written logs.

**Track Productivity**
Collect information for reporting on labor distribution and production.

**Data Collection**
Use labor information to produce reports and analysis on how labor costs impact profitability.

**Reduce Paperwork**
Eliminate hand-written logs and the handling costs associated with routing and maintaining physical records.

**Improve Accuracy**
Barcode scanning eliminates errors associated with re-entering hand-written logs, and reduces the need to estimate time spent working on specific Jobs.

**Monitor and Post Activity**
View labor and Job activity using the Status screen, and post time charges to the Job and Labor tables in Expandable through the Export and Post button on the Job Detail toolbar.

Status Fields Include:
- Record Number
- Employee ID
- Job ID
- Operation ID
- Action Type
- Quantity
- Reason
- Action Date
- Expandable version 1.6 or higher

**SYSTEM REQUIREMENTS**

- Expandable II Client installed
- Expandable Time Charge Upload Utility
- Expandable Bar Code Module (optional)
- MS Data Access Components v2.6+
- Bar Code scanner capable of reading Code 39 (optional)
Shipping Interface

The Expandable SHIPPING INTERFACE streamlines the shipping process by delivering faster package handling, reducing errors, and automating the capture and distribution of critical shipment information.

The two-way interface simplifies the sharing of essential data between Expandable and the shipping systems of major package carriers that offer ODBC connectivity, including UPS and FedEx.

Ship By Sales Order ID

When shipping, users scan or enter a Sales Order number into the carrier's system, and the interface imports the corresponding “Ship To” data from Expandable, then populates the address fields in the carrier's shipping system.

Capture Critical Shipment Information

After shipping, an Expandable utility imports information from the carrier's system, including tracking number, freight charge, service type, weight, and number of cartons, to populate Expandable.

If the Expandable Customer Contact file contains an email address for the “Ship To” contact, some carriers will automatically generate an email message to the recipient notifying them of the shipment.
Bar Codes

Expandable’s BAR CODES module provides the ability to automate data collection, helping to streamline data entry and improve data accuracy.

Any field used to enter data in Expandable can be input via bar code scan with the addition of a standard bar code reader.

Bar Codes supports automated data collection of inventory transactions, from receiving through shipping, as well as shop floor WIP tracking and labor collection.

Bar Codes can also be used to print identification labels for parts and serial numbers for both purchased and manufactured parts.

Labels can be printed to place on items for shipment.

MODULE FEATURES

Standard Source Documents
- Purchase order receiver
- Shop traveler
- Kit list
- Sales order pick list shipping documents

Data Entry Functions Supported
- Receipts into quality control inspection area
- Receipts into storeroom/warehouse
- Kit issue
- Miscellaneous issues and returns
- Inventory to WIP transfer
- Customer shipments
- Labor time card entry

Custom Forms Printing
- Access any Expandable data
- Customized documents to individual requirements

Data Collection Reading Devices
- Light pens
- Wedge readers
- Hand held laser readers/scanners
- Hand held beam readers
- Fixed readers
Upload Utilities

Expandable’s UPLOAD UTILITIES streamline input for data-intensive transaction entry by providing for the posting of transactional information from third party software products and other sources to the Expandable database. Existing internal transaction editing and posting functionality is used to complete the process.

The Upload Utilities ensure data integrity and provide virtual integration to peripheral systems at local or remote sites.

INDIVIDUAL UPLOADS

**SO Shipments**
- Posts shipping transactions via Shipment/Returns Entry

**PO Receipts**
- Posts receipt transactions via Receipts Entry

**Time Charge**
- Posts time card transactions via Time Charge Entry

**WIP Transactions**
- Posts job and operation completion transactions via WIP completion Entry

**Price List**
- Uploads new price information from Excel into Sales Order Price List module

**GL Budget**
- Posts budget amounts from a tab delimited file via General Ledger Budget Editor

**Journal Voucher**
- Creates General Ledger Journal Vouchers from files in fixed ASCII, comma delimited or ADP format

**Tax Rate**
- Imports tax rates from a flat file provided by ADP Taxware

**MPS Sales Forecast**
- Uploads Master Schedule into Master Production Schedule (MPS) from Excel spreadsheet

**Part Plan**
- Provides the ability to enter production requirements directly to a pre-defined Excel spreadsheet for upload into the Part Plan File

**Part Master**
- Posts parts listed from a flat file to the Inventory Control Part Master

**Customer Part**
- Posts Customer Part Cross References to the Sales Order Customer Parts

**Vendor Part**
- Posts Vendor Part Cross References to the Purchase Order Vendor Parts

**Bill of Material**
- Posts Bill of Material (BOM) to the Product Data Control Data Bill of Material

**Serial Number Cross Reference**
- Posts assembly-component serial number cross-references from a tab delimited or Unicode text file as if the Serial Number Cross Reference Editor function posted the cross-references

**Sales Order**
- Loads Sales Orders from a tab delimited or Unicode text file

**Remittance Entry**
- Writes customer checks to the AR Check table and Check Register table

**Requester-Approver**
- Loads Requestors-Approvers Records from a tab delimited or Unicode text file via the Requestors-Approvers Editor

**Requisition Routing**
- Loads Requisition Routing Records from a tab delimited or Unicode text file via the Requisition Routing Editor

**Alternate Approver**
- Loads Alternate Approvers Records from a tab delimited or Unicode text file via the Alternate Approvers Editor

**Alternate Buyer**
- Loads Alternate Buyers Records from a tab delimited or Unicode text file via the Alternate Buyers Editor

**Employee Master**
- Loads Employee Master Records from a tab delimited or Unicode text file via the Employee Master Editor
Electronic Data Transmission

Expandable’s ELECTRONIC DATA TRANSMISSION (EDT) module provides import and export capabilities for data rich translation and mapping into standard EDI documents.

To support the broad range of EDI options between two business partners, Expandable provides comprehensive export data sets and a minimum import data set in flat file formats transmitted via SFTP to an EDI translation, mapping and delivery provider.

The Value Added Network service provider or custom translation and delivery application takes the data required by the target trading partner and maps the data per user specifications and delivers them securely to the end trading partner.

File transfers are supported with Secure FTP (SFTP) from Expandable to SFTP Server(s). Each trading partner is supported by their own unique FTP setup and credentials, trading data and production/test mode of delivery within the Expandable Customer Master linking to EDT Partner SFTP server.

MODULE FEATURES

Expandable EDT Core Module

Expandable’s Core EDT supports from one to as many Trading Partners as required by a business for electronic trading. EDT provides all the necessary system set up for Trading Partner’s SFTP and Trading Data Imports and Exports set up unique to each Trading Partner. Other System Set Up utilities are also included in to core allowing for EDT Activity and Error reporting and email notifications. Specific Import and Export flat file documents are added as required based on the information exchange supported by the businesses trading partner data requirements. Optional Import and Export Data as required.

Sales Order Exports and Sales Order Changes

EDT Sales Order Export exports a complete Order Data set with over 370 individual Master and Detail data fields. All or part of these fields can be mapped to into an EDI Purchase Order Acknowledgement meeting any Trading Partner’s data requirements for acknowledgement of their order placement. Unique tab delimited data files are delivered to the “IN” box of your trading partners SFTP site for Sales Orders that have been set up and confirmed (OPEN status after review and confirmation) for conversion to the Trading Partner’s Order Acknowledgement EDI format requirements.

Purchase Order Imports and PO Changes

Allows the importing of a minimum number of data fields from a flat TAB delimited file translated from a formal EDI Purchase Order Request. EDT PO Import also supports a number of optional fields that are echoed back to your trading partner through out the electronic exchange of order to invoice process. Unique tab delimited data files are retrieved from the “OUT” box of your trading partners SFTP site and imported into Expandable as an on HOLD Sales Order allow for operations review. The import can be configured to accommodate drop shipments.
Electronic Data Transmission (continued)

MODULE FEATURES (continued)

**Sales Order Shipment Transactions Export**
EDT Order Shipment Export exports completed Order Shipment Data supporting EDI Shipment Notification with over 190 individual shipment transaction data fields. All or part of these fields can be mapped back to into an EDI Shipment Notification as required by the Trading Partner. Unique tab delimited data files are delivered to the “IN” box of your trading partners SFTP site for conversion to Order Shipments meeting the Trading Partner’s Shipment Notice EDI format requirements.

**Invoice Export**
EDT Invoice Export exports complete Invoice Data supporting EDI Invoices with over 370 individual invoice data fields. All or part of these fields can be mapped back to into an EDI Invoice as required by the Trading Partner. Unique tab delimited data files are delivered to the “IN” box of your trading partners SFTP site for conversion to Invoices meeting the Trading Partner’s Invoice EDI format requirements.

**Purchase Order Exports and PO Changes**
EDT Purchase Export exports complete Purchase Order Data supporting EDI Purchase Orders with over 340 individual invoice data fields. All or part of these fields can be mapped back to into an EDI Purchase Order as required by the Trading Partner. Unique tab delimited data files are delivered to the “IN” box of your trading partners SFTP site for conversion to Purchase Orders meeting the Trading Partner’s Purchase Order EDI format requirements.

**Non-PO Invoice Import**
EDT Non-PO Invoice Import allows the user to import Non-PO related Invoices into the AP Vouchering system for payment. This functionality is particularly useful in application that generate expense related data that requires the Accounts Payable team to payout. Unique tab delimited data files are imported with detail into the AP Voucher Header and Voucher Detail from systems such as an Expense Management System.

SYSTEM REQUIREMENTS

**Expandable ERP**
- Expandable Release 9.1.0 or higher (with .NET API)
- Matching version Expandable Sales Order API

**Server Side**
- Windows Server 2003 – Supporting Task Scheduling
- SQL 2008, SQL 2008R2

**Client Side**
- Windows XP SP2 or Windows 7
- Internet Explorer 9 or higher (Activity HTML Reporting)
- Adobe Reader (for documentation)

**Partner VAN FTP Server Requirements**
- Trading Partner SFTP Server Credentials
- Passive Mode FTP Operation
- IN/OUT and TESTIN/TESTOUT Structured File Folders
Electronic Data Transmission – NACHA File Export

Expandable’s NACHA File Export application for Automated Clearing House (ACH) transactions collects check payments for vendors that are set up for domestic ACH (Payment Method = DAC) and groups them by Bank Code to be paid and organizes the payment information into the NACHA Organization’s standard NACHA file format for ACH transactions.

Data is extracted from Expandable ERP and transmitted to your banking institution in a secure data stream with SSL encryption using Expandable EDT SFTP (Secure File Transfer Protocol) definitions.

**MODULE FEATURE**

**Supported ACH Standard Entry Classes**
- CCD – Business/Company Payment
- PPD – Individual/Person Payment
- CTX – Corporate Trade Exchange

**ACH Transactions**
- 22 – Deposit destined for a checking account
- 32 – Deposit destined for a savings account

**Vendor’s Banking Setup**
- Bank routing number
- Bank account (encrypted in database for security)
- Bank account type: (CHECKING, SAVINGS)
- NACHA cross reference to check and Pay to Vendor ID

**Payer’s Bank Setup**
- Bank routing number
- Bank account (encrypted in database for security)
- Bank account type: (CHECKING, SAVINGS)
- Payer’s company ACH identification and origin ID
- ACH file modification by bank (supports multiple files in a day)
- ACH file naming prefix/suffix by bank
- ACH file transmission specified by bank or group of banks (with optional file PGP encryption)

**Transmission Setup**
- Secure FTP (SFTP)
- Optional: PGP file encryption to bank with bank public key

The banking institution will have all the NACHA Entry Detail Records to make deposits directly into your vendor/suppliers banking routing/account in the amount Accounts Payable indicated for the check payment.

The Entry Detail will also contain information to cross reference the transaction back to the Expandable Vendor and Check data detail.

**EXPANDABLE REQUIREMENTS**

**Expandable ERP**
- Expandable Release 9.3.0 or higher

**Optional PGP File Encryption**
- GPG4WIN version 2.2.4 or higher
  - GnuPG component
  - Kleopatra component

**Export File Reports and Notifications**
- ACH Report emailed to ACH personnel
- Processed files saved and archived
- Vendor payments not meeting basic NACHA forwarding rules (length, mandatory fields, etc.) are skipped with error messaging in activity file allowing AP correction
RESTful Web Services

Expandable’s RESTful Web Services APIs support integration to external applications that require creation of system validated records to query the Expandable database records and create ERP system transactions.

The five functional areas covered include:
- Sales
- Purchasing
- Accounts
- Inventory
- Product Management

API PACKAGE FEATURES

Expandable Web Services are deployed with a software development kit (SDK) that includes on-line developer documentation, requirements, accepted JSON data parameters, response details, error codes and validation test utility for each service that allow the testing and validation of installation and serve as a development tool to test JSON data structures complete with return error codes and return data results.

RESTful Web Services allow simple HTTP/HTTPS client/server service requests to underlying Expandable business logic for valid record insertion/update and record query filtering.

Application Programming Language Independence supports C, C++, C#, Java, JavaScript, Perl, Python and other languages providing a wide set of programming platform options to the application designer.

Industry Standards

Standard JSON name/value pair data structures (typical: object constructs, array constructs, etc.) for application data exchanges allow the designer to leverage industry standard off the shelf parsers compatible with the designers coding language.

Security

The APIs include Business Logic Security Services for application session login/logout and session controls for secure data exchange to and from the web services while maintaining the administrator’s control over ERP access.

Data Query

Flexible and powerful data query with same filtering capabilities of Expandable’s proprietary core ERP Query by Example (QBE): “IN”, “BETWEEN”, “=”, “<>”, “<”, “>”, “==”, etc. as an integral part of the JSON data value passed as a filter definition.

Requirements

Expandable ERP Release 9.1.1 and forward with appropriate Web Service BLS Feature Key Licensed
Microsoft Windows OS 7, 8, 8.1 or Microsoft Windows Server 2008, 2008R2, 2012, 2012R2
Microsoft IIS 7.0 or later
Microsoft .NET Framework 4.5
API Functional Areas

SALES

The SALES APIs provide access to Expandable’s Customer Master, Sales Order, Customer Part, Credit Card, Customer Contact, Shipments Entry and Product Price business logic and records so that the system can accept orders and payments placed through external applications from new customers, existing customers and customers with updated account and/or contact information.

SALES SERVICES DETAILS

CUSTOMER API
- api/Customer/Create (POST): Creates a new Customer using the supplied creation data.
- api/Customer/Update (POST): Updates an existing Customer using the supplied update.
- api/Customer/Query (POST): Queries existing Customers using the provided query data defining the filtering of returned customer records.

SALES ORDER API
- api/SalesOrder/Create (POST): Creates a new Sales Order using the supplied creation data.
- api/SalesOrder/Update (POST): Updates an existing Sales Order using the supplied update data.
- api/SalesOrder/Query (POST): Queries existing Sales Orders using the provided query data defining the filtering of returned order records.

CUSTOMER PART API
- api/CustomerPart/Create (POST): Creates a new Customer Part using the supplied creation data.
- api/CustomerPart/Query (POST): Queries existing Customers Parts using the provided query data defining the filtering of returned part records.

CREDIT CARD API
- api/CreditCard/Create (POST): Creates a new Credit Card using the supplied creation data.
- api/CreditCard/Update (POST): Updates an existing Credit Card using the supplied update data.
- api/CreditCard/Query (POST): Queries existing Credit Card using the provided query data defining the filtering of returned card records.

CUSTOMER CONTACT API
- api/CustomerContact/Create (POST): Creates a new Customer Contact using the supplied creation data.
- api/CustomerContact/Update (POST): Updates an existing Customer Contact using the supplied update data.
- api/CustomerContact/Query (POST): Queries existing Customer Contact using the provided query data defining the filtering of returned records.

SHIPMENTS ENTRY API
- api/ShipmentEntry/Create (POST): Creates a new Shipments Entry Transaction using the supplied creation data.

PRODUCT PRICE API
- api/ProductPrice/Create (POST): Creates a new Product Price using the supplied creation data.
- api/ProductPrice/Update (POST): Updates an existing Product Price using the supplied update data.
- api/ProductPrice/Query (POST): Queries existing Product Prices using the provided query data.
Web Services APIs (continued)

INVENTORY
The INVENTORY APIs provide access to Expandable's Stores Transfer and Issues Entry business logic and transactions so that Expandable users can create inventory transactions from warehouse management, kanban or other external inventory management applications.

INVENTORY SERVICES DETAILS

ISSUES ENTRY API
api/IssuesEntry/Create (POST): Creates a new Issues Entry Transaction using the supplied creation data.

STORES TRANSFER API
api/StoresTransfer/Create (POST): Creates a new Stores Transfer Transaction using the supplied creation data.

WIP COMPLETIONS ENTRY API
api/WIPCompletionsEntry/Create (POST): Creates a new WIP Completions Entry Transaction using the supplied creation data.

PURCHASING
The PURCHASING APIs provide access to Expandable's Vendor Master, Vendor Contact and Order Entry business logic and records so that Expandable users can send RFQs and place orders from vendor and supplier system interfaces and applications.

PURCHASING SERVICES DETAILS

VENDOR API
api/Vendor/Create (POST): Creates a new Vendor using the supplied creation data.
api/Vendor/Update (POST): Updates an existing Vendor using the supplied update.
api/Vendor/Query (POST): Queries existing Vendor using the provided query data defining the filtering of returned vendor records.

PURCHASE ORDER API
api/PurchaseOrder/Create (POST): Creates a new Purchase Order using the supplied creation data.
api/PurchaseOrder/Update (POST): Updates an existing Purchase Order using the supplied update data.
api/PurchaseOrder/Query (POST): Queries existing Purchase Orders using the provided query data defining the filtering of returned purchase order records.

VENDOR CONTACT API
api/VendorContact/Create (POST): Creates a new Vendor Contact using the supplied creation data.
api/VendorContact/Update (POST): Updates an existing Vendor Contact using the supplied update data.
api/VendorContact/Query (POST): Queries existing Vendor Contacts using the provided query data defining the filtering of returned vendor contact records.

PO RECEIPTS ENTRY API
api/POReceiptsEntry/Create (POST): Creates a new PO Receipts Entry Transaction using the supplied creation data.
API Packages (continued)

PRODUCT MANAGEMENT

The PRODUCT MANAGEMENT APIs provide access to Expandable's Parts and Bill of Materials business logic and records so that Expandable users can manage product data in Expandable using external PLM, CAD or other engineering development or product management applications.

PRODUCT MANAGEMENT SERVICES DETAILS

IC PART API
api/Part/Create (POST): Creates a new Part using the supplied creation data.
api/Part/Update (POST): Updates an existing Part using the supplied update.
api/Part/Query (POST): Queries existing Parts using the provided query data defining the filtering of part records.

BILL OF MATERIAL API
api/BillOfMaterial/Create (POST): Creates a new Bill of Material Component using the supplied creation data.
api/BillOfMaterial/Update (POST): Updates an existing Bill of Material Component using the supplied update data.
api/BillOfMaterial/Query (POST): Queries existing Bill of Material Components using the provided query data defining the filtering of returned BOM records.

VENDOR PART API
api/VendorPart/Create (POST): Creates a new Vendor Part using the supplied creation data.
api/VendorPart/Update (POST): Updates an existing Vendor Part using the supplied update data.
api/VendorPart/Query (POST): Queries existing Vendor Parts using the provided query data defining the filtering of returned part records.

ACCOUNTING

The ACCOUNTING APIs provide access to Expandable’s AP Vouchering business logic and transaction creation so that Expandable users can interface directly to vendor or expense management applications for non-PO invoicing and AP vouchering to allow the Expandable AP function to make payment of those supplier or employee expenses.

ACCOUNTING SERVICES DETAILS

AP INVOICE ENTRY API
api/APInvoiceEntry/Create (POST): Creates a new AP Invoice Entry Transaction using the supplied creation data.

AR INVOICE ENTRY API
api/ARInvoiceEntry/Create (POST): Creates a new AR Invoice Entry Transaction using the supplied creation data.

SECURITY

Each API set includes Business Logic Security Services for application session login/logout and session controls for secure data exchange to and from the web services while maintaining the administrator's control over ERP access.

SECURITY SERVICES DETAILS

SECURITY API
api/Security/Login (POST): Authenticates the supplied Expandable login credentials and returns an Authentication Token.
api/Security/Logout (POST): Retires the supplied Authentication Token and releases server resources associated with it.