

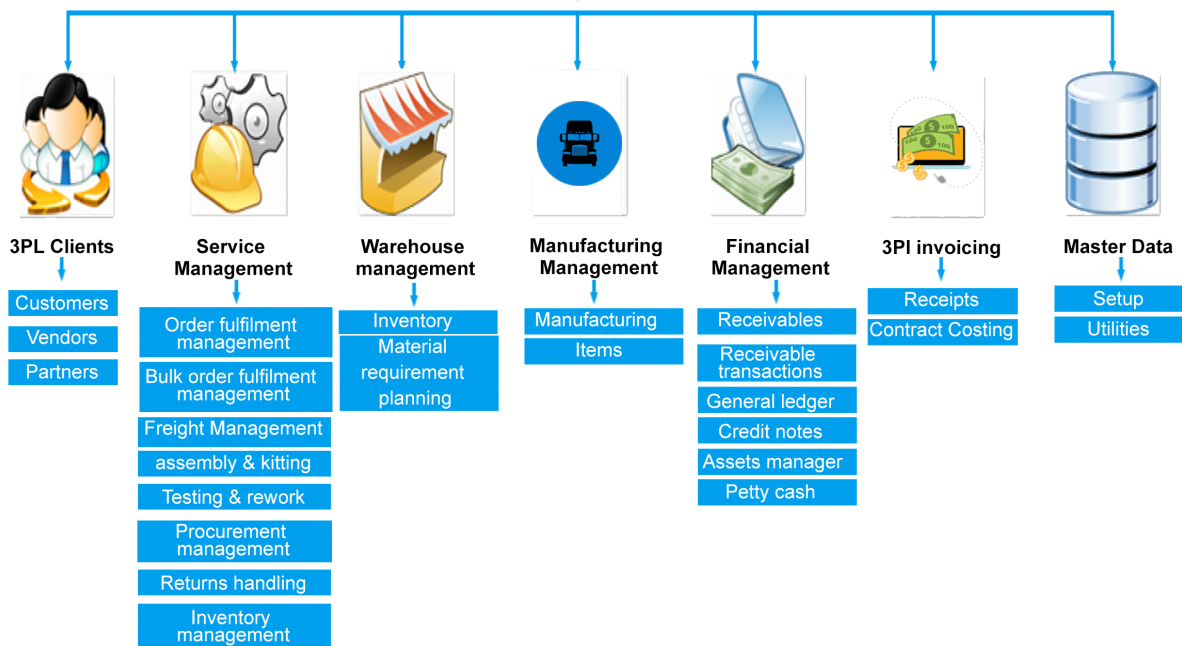


Mavin 3PL

Enterprise Resource Planning for Growth

Prepared for

3PL ERP



Product Custom built by [Mavin Infotech](http://www.mavininfotech.com), Email: augustine@mavininfotech.com, Website: www.mavininfotech.com
Address: Block # 304 & 305, Bhanu Arcade, Opposite to Hi - Tech theater, Madhapur, Hyderabad, India, PIN - 500081
Phone Numbers: +91 - 40 - 40056734, +91 - 9963 - 197111.

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Introduction

1.1 Why 3PL ERP?

In today's scenario businesses are becoming more dynamic and geographically dispersed. Information is required to be available 24x7 at the click of a button via the Internet. 3PL or the third party logistics companies are becoming an important source for retailers to achieve online strategies in the supply chain management system. They have become essential in growing the needs of better online order fulfilment process.

Imagine the complications involved in fulfilment of hundreds and thousands of orders where you have to handle and ship orders from multiple sales channels. You will have to manage inventory, pick inventory, and accurately ship to your customers without any delays.

In order to perfect this process and also by adhering to customers demands retailers are opting for 3PL companies to manage all the supply chain processes.

3PL offers an all-in-one package for all the solutions of assembly and kitting, testing and rework, warehousing, distribution and invoicing. Utilizing a 3PL maximizes business's profitability and provides a reliable logistics advantage. The combined knowledge and resources provides a compelling infrastructure for business systems because it offers:

- A resource network that provides advantages for in-house processes. Each step in the order execution can be fulfilled in the most efficient and cost effective way.
- Using a 3PL program eliminates the need to invest in staff to execute the logistics processes. You can save time and money needed to carry out the ERP processes. You need not worry about the paperwork, audits, invoicing, staffing, training and optimization involved in delivering your goods.
- A 3PL program is capable of advance reporting, inventory management where it provides the right practices to check if the correct amount of inventory is shipped and provides the visibility to monitor the entire process.
- A 3PL program helps you to scale space, labor and transportation according to the inventory needs. It ensures that your needs are met, by using the fastest, most efficient and in cost effective methods.

On the whole a 3PL ERP software maximizes your profits, reduces wait times and improves customer service.

1.2 Requirements

1.2.1 Hardware Requirements

There are many possible configurations that could run this application. The scale of the enterprise obviously will have a significant bearing on the final configuration.

Each client connection to the web server and database engine will also consume RAM so the more connections the larger the RAM requirement. Similarly disk space required is a function of the volume of customers, suppliers and transactions. Suffice it to say that due to the efficiency of the components of the system the demands on the hardware are exceptionally light by client server application standards.

As a guide, an installation for up to 50 simultaneous users could consist of the following:

- A Linux operating system,
- An Apache web server,
- An entry level server with 2Gig RAM
- A 100 Megabit network card

This would provide more than adequate performance. A small NAS or SAN with disk redundancy would be preferred in larger installations. With multiple servers with SMP, load balancing, a separate database server, and large amounts of RAM the limit on database size and the number can be scaled to the most demanding businesses.

Outsource Hardware to Mavin Infotech

We are responsible for the following:

- Backups - the business should always configure its own backup in any event
- Hardware redundancy - ie failover spare servers, disks etc
- The safety and protection of the hosts hardware
- Backup power generation
- Backup connectivity options of the host ie more than one connection to the internet is preferable

1.2.2 Software Requirements

- PHP Any version greater than 5.1 will work. PHP works on all operating systems so 3PL ERP is therefore operating system independent. If transfer of EDI orders is required the ftp extensions for PHP will be needed. If using translations the gettext extension for PHP is also required. The graphing functions also require the GD extension.
- MySQL version 4.3 or above - innodb transaction compliant tables are required.
- A web server. Apache makes the most sense – but most web servers are supported by PHP in various forms.
- In a windows/linux/unix environment the XAMPP also provides all the software required and is easy to install.

1.3 Security Schema

The 3PL ERP security scheme consists of the following parts:

Users: A separate account should be created for each user. User accounts may be added by an administrator. User accounts may be edited or deleted by an administrator.

Security Roles: Security Roles may be added or removed by an administrator. Each 'Security Role' is assigned one or more 'Security Tokens'. The 'Security Tokens' assigned to a particular 'Security Role' can be changed.

Security Tokens: 15 'Security Token' choices are available by default. Each 'Security Token' allows access to one or more 3PL ERP pages. There is no 3PL ERP tool to add, remove or edit 'Security Tokens'. However, an administrator can edit the underlying table (securitytokens).

PageSecurity values: Each 3PL ERP page is given a Page Security value from 1 to 15 in the table scripts. The system reads all the scripts and the PageSecurity value for each. There is also a 3PL ERP tool to change PageSecurity values.

1.4 Maintaining Master Data

In 3PL ERP, maintaining master data has two important functions that lets you organize the ERP data modules.

- Setup
- Utilities

1.4.1 Setup

- It is important to setup the company preferences that includes company logo, company name, address line, telephone number and email configurations. The company record also provides a convenient place to store default GL codes and the GL integration set up.
- Setting up user interface which can be modified by adopting one of the defined themes or making up a new theme. There are a number of choices for the theme to experiment with - these will only affect the display of the screens = colours/fonts etc.,
- Setting up users. A new user should be defined who has administrative privileges and the user 'demo' should be deleted.
- As of 3PL ERP version 3.12 all translations of the user interface use utf-8 character encoding. To use a language other than english the web-server must have a locale installed for that language using the utf-8 character set. For German this would be the locale called de_DE.utf8 - most locales follow a similar naming convention e.g. en_GB.utf8 for English - Great Britain with utf-8 characters. en_GB.utf8 is the default locale for 3PL ERP. 3PL ERP distributes translations for all of the available languages bundled in the archive.
- From the setup tab the main system configuration parameters can be set from the link "System Parameters".
- Mater data also provides the flexibility to set up email notifications, currencies by determining the ISO 4217 code for the currency, taxes and tax calculations.
- You can also setup audit trail that helps you to trace any record of recent changes that has been made to database or file.
- Master data also provides the flexibility to set up receivables/payables that determine sales types and price lists, inventory setup that determine category maintenance, inventory location and units of measures that describes how the stock should be maintained and services setup.

1.4.2 Utilities

The following special utilities should only be run by the individual in the business who is allocated the task of administering the system. All these utilities have a page security setting of 15 by default. These include the following:

- Re-apply standard costs to sales analysis
- change a customer code
- change an inventory code
- make stock locations
- repost general ledger from period.

1.5 3PL Clients

1.5.1 Creating Customers

- 3PL ERP gives you the flexibility to add customers by clicking on customers tab. The customer record is the actual charge account, any number of branches can be defines for each customer account.
- Enter customer details that include customer's firm name, email, mapping warehouse locations, type, contractual details, billing frequency, billing address, shipping address, supplier details etc.,
- Enter account details that include filling up credit limit, credit status, payment terms, currency, language, account status etc.,
- Enter ownership details where you can upload documents related to the customer. You can also add trade references and customer contacts if any.
- Create branches for customer that includes branch name, code, address line, sales person, transactions on this branch, tax authority of the branch.
- Set up inventory items, services, partners, suppliers, pricing and warehouse storage for the customer.
- There is also possibility to view, modify or delete customer related information. You can also service discounts and freight discounts to the customer. You can also enable EDI transactions for the customer.
- Create login credentials for customers by assigning a supplier username and password.

1.5.2 Creating Vendors/Suppliers

One of the primary functions of a 3PL ERP is to track the amounts owed by the business to suppliers in both local and foreign currency. The system shows, invoice-by-invoice, the balance on the account and does not lose the detail of what makes the account up in a balance brought forward - it is an "open item" system. When payments made to vendors are entered and allocated to invoices, the differences on exchange are calculated and posted to the general ledger, if only integration to the general ledger is enabled.

Features

- Suppliers aging report that takes into account the actual terms applicable to the supplier, and is supported by detailed inquiry of actual invoices due.
- Full on-screen inquiry on a supplier's account, complete with a general ledger breakdown of how each invoice and debit note (Supplier credit note) was posted. Inquiries on payments made will show how a payment was allocated to invoices and the difference on exchange attributable to each invoice.
- Open item - full analysis of the outstanding balance is maintained

- Retrospective - de-allocation and re-allocation of payments and/or debit notes with re-calculation of differences on exchange and corresponding general ledger journals
- Any number of supplier contacts can be maintained against the supplier
- Fully integrated to stock - whereby purchase order receipts of stock can be selected for entry against a supplier invoice.
- Full standard costing price variances between standard cost of stock received against the invoiced actual cost at invoiced exchange rate is recorded and posted to the general ledger
- Purchase invoices and debit notes can be entered directly to multiple general ledger accounts with charges divided up at invoice entry time
- Purchase invoices and debit notes can be entered as shipment costs - to accumulate against the cost of a shipment for costing of the stock items on the shipment
- Nominal purchase order items received can be selected for invoicing in the same way as stock items. Purchase price variance from the order cost are taken to the general ledger account that the order item was coded to
- Supplier payment run will create system entries to record payments for all suppliers with due amounts. Facilities allow for holding disputed invoices from being included in the payment run, but still recording costs in the general ledger.
- Create login credentials for users by assigning a supplier username and password.

1.5.3 Creating Partners

In general there are two types of partners in 3PL ERP

- Warehouse Partners
- Shipping Partners

Features

- Both warehouse and shipping partners can be added from partners tab where you need to fill up information such as partner type, code, firm, address line, telephone, services provided, and any details of partners contract respectively
- Once the information is saved there is a possibility to view, modify or delete any warehouse or shipping partner related information.
- Warehouse partner management involves uploading of partner invoices, adding partner contracts, uploading partner rate sheets related to partner services and service pricing, setting up partner login credentials and other partner related documents
- Shipping partner management involves uploading of shipping partner invoices, adding new partner facility types, uploading any partner contract or partner related documents and setting up partner login credentials.

1.6 Service Management

Service management plays a key role in a 3PL ERP as it deals with maintaining various number of order line items, stocks, inventory management, regular sales orders, shipped items, order entry details of assembly and kits etc., Service Creation and Service Execution are the two key steps in a 3PL ERP.

There are total 8 services in the ERP. And each of these services have its own method of service creation and execution. Finally service status tells if all the orders created under that service have completed their execution or not. Following are the different types of services that can be created.

- Order Fulfilment
- Bulk Order Fulfilment
- Freight
- Assembly and Kitting
- Testing and Rework
- Procurement
- Returns Handling
- Inventory Management

1.6.1 Order Fulfilment Management

Order fulfilment refers to the primary step for any industry from the moment order has arrived until the items land in customer hands. In a 3PL ERP, an ERP user creates a service under service creation by

- selecting the customer and the customer location
- selecting the ticket type that is aggregate or single ticket there by choosing multiple or single ticket.
- selecting the warehouse location associated with the customer.
- An ERP user can either upload order CSV or manual enter order details of the customer and once uploaded can verify the data.
- User can check the inventory to see whether the order status is fulfilled or not.
- B2C orders can be executed by the assigned warehouse user either by selecting orders that has been dispatched to process. Once this is done warehouse user can generate labels for the processed orders and update the status.
- Once the shipping labels are generated, the details of the orders are entered into the barcode fields by scanning using barcode scanner

1.6.2 Bulk Order Fulfilment Management

In a 3PL ERP, an ERP user creates a bulk order service by

- selecting the customer and the customer location
- selecting the ticket type that is aggregate or single ticket there by choosing multiple or single ticket.
- selecting the warehouse and store location associated with the customer.
- An ERP user can either upload order CSV or manual enter order details of the customer and once uploaded can verify the data.
- User can check the inventory to see whether the order status is fulfilled or not.
- B2B orders can be executed by the assigned warehouse user either by selecting orders that has been dispatched to process. Once this is done warehouse user can generate labels for the processed orders and update the status.
- Once the shipping labels are generated, the details of the orders are entered into the barcode fields by scanning using barcode scanner

1.6.3 Freight Management

Freight service comes into picture when the customer involves in shipment of bulk orders to a distant location that involves air, ocean, or inland transportation. Once a Freight order service has been selected by an ERP user, it is important to raise an 'Inventory Transfer Order' to transfer bulk orders.

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Shipping Service Order

Once the created inventory transfer order has been created the items can be shipped from their own warehouse or using a shipping partner that could be Fedex, UPSC etc., Selecting a shipping partner service involves raising a shipping service order. Freight orders can be executed by selecting the tickets to be processed.

1.6.4 Kitting & Assembly Services

Assembly and kitting in order fulfilment usually refers to assembly of higher level individual parts into kits which can be ready to shipped. This order is also raised by an ERP user if any Customer wants kitting for any particular orders. Once the service has been selected the screen automatically displays list of SKUs available for kitting. To process the kitting order the warehouse user can select the order for which the kitting availability is yes.

1.6.5 Testing & Rework Services

Testing and rework order is generally raised if there are any nuts and bolts involved during the kitting of any individual line items. Rework is usually done for the orders raised in assembly if necessary. Once the service has been selected the screen automatically displays list of SKUs available for testing. To process the testing order the warehouse user can select the order for which the testing availability is yes.

1.6.6 Purchase Orders

Procurement Purchase orders are the contract initiated by an organisation with its suppliers (vendors). Since, purchase orders commit the business to expenditure it is important to ensure that the commitment is not made without the proper authority. 3PL ERP forces certain procedures to be followed to ensure proper authorisation. The sequence is:

- An operator with access to the purchase order creation creates the purchase order.
- It is possible if this user has access to authorise the purchase order to have it authorised automatically. This requires a configuration setting to be enabled to allow this. Normally, another user with appropriate authorisation levels is required to authorise the order. Authorisation levels can be set by user and currency and by the amount of that currency. For example a user maybe able to approve purchase orders up to \$1000 in USD. Orders cannot be printed and sent to a supplier until they are authorised.
- Users who are valid authorisers have a special screen to see which orders require authorisation - they can authorise the orders from there.
- A trail of who initiated the order, who changed an order and who authorised an order with dates is maintained in the status comments.
- Once an order is authorised it must be printed - it is not possible to receive any stock against an order that has not been printed.
- Once printed it is now possible to receive stock against the order.

1.6.7 Returns Handling

Returned orders from the customers are usually managed by raising a return handling service order. Initially ERP user is responsible for entering the return order details by clicking on 'Receive Returns' under Warehouse - Operations. General 3PL Steps under this involve:

- Choosing a customer from which the goods are received
- Entering Order number for which the goods are received
- Check the stock id and enter the quantity of items received and selecting the warehouse location of the customer

- selecting the ticket which the user wants to process the return.

1.6.8 Inventory Management

Inventory Management service can be selected by an ERP user in order to track daily operations in the inventory levels and stock locations.

- When an ERP user selects IM warehousing service for a particular customer, different inventory views for various customer warehouses.
- It gives a list of line items and part numbers along with a price range for average quantity of part numbers which can be later used when raising an invoice.
- Created orders are assigned to warehouse users by warehouse managers and these warehouse users process the order. However, the status will be updated by the warehouse manager.

1.7 Warehouse Management

Inventories fall into clear categories particular to the business. For example a toy factory might have categories for lego, rideons, board games etc . These are referred to as stock categories and are expected to be defined by the business. The name of the category (but not its code) can be altered at any time.

Inventory invoiced using the invoicing option will decrease the stock on hand from the stock location specified in the invoice. Inventory credited using the credit note creation option will increase the stock held at the location selected in the credit note. Inventory adjustments to the quantity held are also possible and transfers between stock locations.

A record of each stock movement is maintained, stock movements originating from sales invoices, purchase orders received, stock adjustments, sales credit notes can all be viewed using the inquiry of stock movements. Summing the stock movements provides an easy mechanism to see the historical usage and an inquiry is also available to show usage by month.

Inventories can be valued at either standard cost (manually maintained costs) or weighted average cost (automatically maintained). If general ledger stock integration is active, general ledger postings are created for stock adjustments, standard cost amendments, cost of sales and stock movements on invoicing and crediting. When stock journals are used, provided that the balance of the stock accounts agrees to the current valuation of the stock at the time when the flag is set in the company preferences page, then the value of stock held will be maintained in the general ledger, with a full trail of general ledger journals for each stock movement.

Features

- Multiple warehouses, stock quantities maintained for an unlimited number of locations.
- Prices for a stock item can be set for each sales type defined in any (and all) currency (ies) allowing great pricing flexibility.
- Automatic back ordering. Sales orders yet to be delivered can be automatically back ordered at the time of invoicing or the balance of the order cancelled as appropriate.
- History of stock movements maintained by stock item.
- Allows Dummy stock items which can be invoiced, priced, costed but with no stock record maintained for items such as labour or services.
- Kit-set parts can be defined. An order for a kit-set part explodes into the components defined for the parts at the predefined quantities as extended by the number of the kit set item ordered. These component quantities are then available on the order for modification by the user.
- Assembly parts can be defined in a similar way to kit sets. These parts exist only for ordering, invoicing and sales analysis. No stock balance is maintained, instead the quantities of the components are updated in proportion to the quantity defined in the assembly.
- Each inventory category can have an unlimited number of properties. Each item of that category can then record its value for each property. Like additional fields depending on the type of inventory.
- Inventory can be set to serialised - where each item of inventory requires its own serial number.
- Inventory can be set to batch controlled - where each batch/lot of inventory of an item must refer to a batch or lot reference
- Invoice and credit note inquiries are inked to stock movements so the detail of items sold on an invoice can be queried.
- Standard cost maintained and valuation reports
- Inventory usage by month inquiry by location and overall
- Inventory planning report
- Integration with purchasing, accounts payable, accounts receivable and general ledger.
- Any number of custom fields can be added specific to each inventory category
- Internal stock requests with departmental authorisation
- The languages for which item descriptions are to be maintained can be configured. Invoices and credit notes can be produced in the language preferred by the customer.

1.8 Materials Requirement Planning (MRP)

It is one thing to plan for purchasing where the item being sold is the item to be purchased. Things get more complicated when the item being sold is manufactured - each of the components in the bill of material need to be available before the item being sold can be manufactured. Where the components in turn are also manufactured then the complexity compounds - this is the material requirements planning calculations are for.

MRP - Material Requirements Planning -is software used to manage production and purchasing in an efficient and economical manner. It takes demand from sources such as current and forecast orders, work orders, and parts below safety levels, subtracts supply, in the form of inventory on hand, on order, or in process, and calculates requirements for ordering or building parts to cover that demand. This entry in the wiki will describe the MRP features that are available in 3PL ERP and the procedures to follow to implement the system.

Base Data Requirements

To effectively run MRP, certain information relating to parts should be established. Since MRP calculates the quantities to purchase or make based on this data, it is important to ensure that these parameters are maintained rigorously. As always the garbage in -> garbage out principles apply. The critical data required is as follows:

Under Item Maintenance -> Modify Item Details, there are three "order quantity modifiers", which are fields that will inflate the quantity MRP will recommend either purchasing or building to cover a demand.

- EOQ or Economic Order Quantity. This is the minimum quantity for which MRP will plan an order. If MRP determines that there is a need for a quantity of 1 for a part, but that part has an EOQ of 5, MRP will recommend that an order for 5 is created.
- Pansize, also known as the order multiple. This allows you to create orders in even multiples. As an example, if MRP determined there was a need for a quantity of 135 for a part, and the pansize was set to 10, MRP would create a planned order for 140, which is the next highest even multiple to cover the requirement.
- Shrinkage Factor, which is a percentage value used to cover expected scrap or other loss.

Production Calendar

To avoid situations where, based upon a part's need (required) date minus its lead time, MRP might schedule a part for a day where the business is closed, a Manufacturing Calendar of valid dates can be created. This is done under the Setup menu – Inventory Setup - MRP Available Production Days.

Master Production Schedule - Demand Forecasts

- There are two programs to enter actual order demands, both of them under the Manufacturing menu.
- The first, Master Schedule, allows for entering, editing, and deleting individual demands, and also for the listing of demands by part number or Demand Type, and the deletion by Demand Type.
- To enter a demand, type in the part number, quantity, and due date, select the Demand Type, and press the Enter Information button. Pressing the List Selection button displays multiple records. If the part number field is blank, all demands for the selected Demand Type will be displayed. If a part number is entered, all demands for that part number will be displayed. When the demands are displayed, there are buttons to press to edit or delete that particular demand. Pressing the Delete Demand Type button deletes all demands for the selected Demand Type.
- The Master Schedule can be generated automatically using the Auto Create Master Schedule script - this generates multiple demands from sales orders based on the selection criteria entered.

MRP Reports

MRP produces several reports that are under Manufacturing. MRP Reschedules Required shows the work orders and purchase orders that, according to the MRP, need to have adjustments made to their due dates. MRP Suggested Purchase Orders and MRP Suggested Work Orders show the orders that MRP has determined should be created to cover demands. MRP Shortages shows all of the parts that have an insufficient quantity to satisfy demand. The inquiry simply called MRP is used to display all of the supply and demand information for a part.

1.9 Manufacturing

Manufacturing - simply the combination of items to make other items can be implemented effective from 3PL ERP version 3.06. It has been possible to build bills of material for manufactured items for some time but the functionality that allows the materials to be issued from stock and manufactured items received into stock was introduced with 3.06. This is the purpose of the work order.

Functionality to add labour items to work orders and post recovery amounts to a profit and loss account for issues of labour to a work order was added after 3.09 (Sept 2008). Functionality to set up a master production schedule and explode bills of materials into the components required to manufacture this demand and calculate the required orders to be placed/rescheduled (MRP).

Bills of material now allow components to be defined as "auto-issue". Components set up to auto issue, automatically create the issue transactions against the work order based on the bill of material quantities on the entry of receipts of a finished item against the work order. This decreases the administration of work orders for those components with relatively low value and limited possibility for any usage variance. It is not recommended that this feature be used on components where the final requirement for it could vary with for example yield differences between work orders. Work orders take the value of components and materials issued and divide this total cost between the output items to arrive at a cost per unit for all output items. The process for performing this calculation is called "closing" the work order.

Functionality to automatically create works orders for manufactured items at a default factory when a sales order is entered for which there is insufficient stock after all sales orders are delivered and outstanding works orders and purchase orders received. This functionality needs to be turned on as an option under configuration settings. The email address of the production manager who will receive an advice of the work order being created can also be defined in the configuration settings.

In dealing with serial or batch controlled items there are two ways that the system can operate. Either the serial numbers or batches must be created at the time the work order is created or they are entered at the time they are completed. If they are created at the time the work order is set up there is an option enter remarks about each lot or serial number about the manufacture or quality check data. To have serial numbers (or batches) defined at the work order entry stage this needs to be set in the configuration settings.

The sequence of events in manufacturing an item is as follows:

- Enter a Work Order - selecting all the output items required to be included in the work order costing. To ensure accurate costing it is recommended that work orders be created for single items wherever possible. The quantity required of the item and the date the items are required to be completed by must also be specified. If the output item is a controlled item - either serialised or lot/batch controlled - then there is also an option to enter the next serial number or batch reference which will be retrieved when entering the manufactured items received. If the configuration is set to create serial numbers (or batches) up at the time of the work order entry then there is an option to create serial numbers automatically based on the next serial number for the item defined in the stock master - all that is required is the number of serial numbers to create.
- Receive Items against the work order. When manufactured items are completed they can be 'received' against the work order. Auto-issue components are automatically issued. On the first receipt of manufactured items against a work order, the cost of the item is recalculated by rolling up the cost from the bill of material. A cost adjustment is performed if the cost changes. If serial numbers (or batches) have been defined at the time of the work order entry these will list for checking off the items being received as finished against the work order
- Issue components and raw materials to the work order
- Once all components and raw materials are issued to the work order and no more manufactured items can be received against the work order it can be closed. The

closing process recalculates the cost of the items manufactured on the work order and if weighted average costing is used a cost update will be processed.

2.1 Financial Management

2.1.1 Account Receivables

A primary function of the system is to track the amounts owed to the business by customers in both local and foreign currency. The system shows, invoice-by-invoice, the balance on the account and does not lose the detail of what makes the account up in a balance brought forward - it is an "open item" system. When payments received from customers are entered and allocated to invoices, the differences on exchange are calculated and posted to the general ledger - that is only if integration to the general ledger is enabled from the company preferences page under the setup tab.

Features

- Overdues inquiry that takes into account delivery days to the customer's branch and the actual terms applicable to the customer, supported by detailed inquiry of actual invoices overdue.
- Full on-screen inquiry on a customer's account, complete with invoice details and narrative which appeared on the invoice. Inquiries on payments received will show how a payment was allocated to invoices and the difference on exchange attributable to each invoice.
- Full integration with stock records and general ledger -a full trail of journals for each transaction is maintained - a drill down to the general ledger transactions for each transaction on a customer's account is available from the customer inquiry page.
- Open item - full analysis of the outstanding balance is maintained and printed on statements for maximum information to the customer.
- Flexible user definable sales analysis reports to pdf or spreadsheet (csv - comma separated values).
- Retrospective - de-allocation and re-allocation of receipts or credit notes against charges with re-calculation of differences on exchange and corresponding general ledger journals.
- Any number of branch - delivery addresses can be added serviced by different sales people with different tax authorities and different areas for sales analysis purposes.
- Unlimited free form notes can be maintained for each customer and an unlimited number of contacts can be stored against each customer.

2.1.2 Accounts Receivable Transactions

Selecting an Order to Invoice

All invoices require a sales order to be entered first.

From the main menu select the receivables tab. Choose 'Select Order to Invoice' from the transactions menu. This page shows all the orders outstanding. If the order number is known it can be entered on this screen to select the order to invoice. Hit search orders and the order should show below, together with links to modify the order, print the packing slip and to invoice. Click the link to invoice the order.

Producing An Invoice From A Selected Order

Having selected an order to invoice the order line comes up for confirming the quantities of the order that were dispatched. If the quantity dispatched differs from the order the difference is recorded in the table OrderDeliveryDifferencesLog - and a report is available to show the orders that were not able to be delivered with the first dispatch. There is also opportunity to enter the freight charge and if necessary enter the tax charge - which will normally be calculated automatically based on the tax authority of the customer branch being invoiced. The date of the invoice is defaulted based on the time of day and the settings in config.php. If the hour (in 24 hour format) is after the setting of \$DispatchCutOffTime in config.php, then the following day is deemed to be the invoice date, alternatively the invoice date will default to today. Where not all lines on the order are being invoiced there are two choices with how to deal with the balance.

- Put the balance on back order
- Cancel the line on the order

2.1.3 Credit Notes

Credit notes can be created in one of two ways:

- From a customer inquiry screen if the user has the necessary permissions a link shows to allow an entire invoice to be credited. Having clicked this link there is opportunity to de-select some items from being credited so that only the part of the invoice that needs to be credited can be, with only minimal keying. The same credit note creation page as used in manual creation of credit notes will appear but with all the items from the original invoice already entered into the credit note.
- Using the link on the main menu under the receivables tab, select the link to create a credit note.

2.1.4 General Ledger

The general ledger is the accounting hub that is central to the "sub" ledgers for creditors (Accounts Payable), debtors (Accounts Receivable) and stock (inventory). All entries in the sub ledgers are also represented by entries in the general ledger. It is the integration set-up that determines how entries in the sub-ledgers are reflected in the general ledger. Most activity in the general ledger will be automatically created from the activity in the sub-ledgers with receivables, payables and stock administration.

However, there are also facilities to:

- Enter general ledger receipts against a pre-defined bank accounts.
- Enter general ledger payments against pre-defined bank accounts.
- Enter general ledger journals between any general ledger accounts - except bank accounts. These can also be made to reverse automatically in the following period. Further journals can be posted to any period future or previously - the period is determined by reference to the date entered.
- Inquire on general ledger account activity and from any entry in this inquiry drill down to the journals created to produce the entry.
- Inquire on the general ledger trial balance for any period end in history or currently.
- Produce cost centre profit and loss accounts for each cost centre (called "tags").

2.1.5 Fixed Assets Manager

The Fixed Assets Manager module allows the recording of individual fixed assets into the database and integration back to the 3PL ERP General Ledger.

- Assets are assigned a unique id number.
- Any number of fixed asset categories can be defined e.g. Plant, Equipment, Buildings etc.
- Assets can be depreciated using either straight line or diminishing value depreciation methods.
- Each asset can have its own depreciation rate.
- Any number of fixed asset locations can be defined. Assets can only belong to one location.
- Assets can be listed by category and location so they can be readily identified in a fixed asset audit.
- Depreciation calculation and posting run checks if it has been previously run, and defaults the run date to avoid duplicated depreciation runs.
- A transaction log of depreciation, additions and disposals is maintained by the system.
- Full fixed asset schedule of any date period range is possible.

- Fixed asset general ledger posting is performed based on the GL accounts specified in any number of user defined, fixed asset categories.
- Fixed asset maintenance tasks can be logged and assigned to an individual with a manager. These tasks can then be used to generate a maintenance schedules.

2.1.6 Petty Cash

The Petty Cash module enables employees to submit expense claims directly into the system that can then be authorised by their immediate supervisor.

Petty cash expenses are controlled in a friendly way, enabling all employees (including those without accounting knowledge) to enter their expenses and get paid for them. The Petty cash module uses a temporary GL table, containing all information about payments and expenses entered as petty cash. When cash assignments or expenses are authorized by a supervisor, they are posted into the gltrans table and flagged.

Once any transaction in the petty cash system has been posted it cannot be modified, edited or deleted in any way. Once posted, that's it.

2.2 3PL Invoicing

2.2.1 Entry of Receipts

This system tracks the invoices and credits which are outstanding (also called open item system) in contrast to systems which use a balance brought forward from the previous month to add and subtract current month transactions. Experience has shown balance forward systems whilst intuitive, often result in queries for more information with the inevitable question from customers "what was this balance made up of ?" . The statements produced by this system show a full reconciliation of the amounts outstanding against invoices and credits that are yet to be settled totalling the amount of the customer's account. In order to provide the necessary information to track outstanding amounts, invoice by invoice, the detail of the make up of payments must be entered.

Payments received from customers are therefore entered in a two-stage process:

The amount of the payment received is entered in foreign currency together with the exchange rate at which this has been banked into local currency. Any details pertinent to the receipt such as the date, method of payment and any details (which can be recalled from inquiries later) are entered at this stage.

The foreign currency received is allocated to the invoices (and debit journals) on the customer's account. Put another way, the invoices that the payment is meant to be settling are matched off against the payment.

The receipt types can also be selected as following:

- Receipt - Customer
- Receipt – Date
- Receipts - Currency and Exchange Rate
- Receipts- Payment Method
- Receipts- Amount
- Receipts- Discount
- Receipts - Allocating to Invoices
- Differences on Exchange
- Receipts Processing
- Deposits Listing.

2.2.2 Contract Costing

The Contracts module allows for construction of costing for specific customer projects where a bill of materials to be taken from inventory for the contract can be defined, together with a cost list of other requirements. By entering a gross profit percentage figure a price can then be arrived at to charge the customer. The contract can then be converted to a quotation. While the contract is at the quotation stage it is possible to modify the stock components and other requirements - the quotation will be updated with the new costing on committal. The quotation can then be resubmitted to the customer.

When a contract is converted to a quotation the system actually creates a manufactured inventory item with the name of the contract reference and with the description from the contract description.

When (if) the quotation is accepted by the customer, the quotation can be converted to an order in the usual way by modifying the quotation flag from quotation to order. Committing this change then changes the status of the contract to ordered so that changes are no longer allowed. This process also creates a work order so that stock required for the contract can be issued to it. By using the work order issue functionality the stock is reduced and work in progress is increased.

When supplier invoices (accounts payable) are entered there is the option to specify the contract that is to be charged with the cost. The cost of contract charges also goes to the work in progress account (as determined from the stock category record of the contract). Any number of contract charges can be entered against a supplier invoice (or credit note). In entering contract charges there is also the possibility of flagging whether or not the charge was originally envisaged and costed into the contract or not. Contract charges records are created for each entry.

The original contract costing can be compared against the actual charges against the contract, to see how much was made on the contract. When all charges are entered against the contract it needs the status of the contract to be changed to complete. This process closes the work order and compares the original contract cost against actual costs and takes the value not charged to cost of sales to the usage variances account (based on the stock category of the contract item) and clears the balance that would otherwise be left in work in progress.

