wesupply™

Unit 4 – Demand

Item Demand
Kanban Card Entry
Kanban Enquiry
Purchase Order Enquiry

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4.0   Demand

4.1   Introduction

The Demand application manages the processing of communicating the customer's purchasing requirements to their suppliers. The Demand may be used simply as a processing 'engine' driven by order requirements from an external system, or can be used to build a model of the supply network and define how fulfilment is to be achieved for each item between each 'node' in the network.

Functions

- Long-term Forecast enables suppliers to plan their purchasing and production need.
- Short-term Shipping Instructions specify dates, times and quantities for each delivery.
- Supports both blanket orders (schedules) and discrete orders.
- Customer and suppliers have exactly the same view of what is required
- Demand can accept input from existing customer systems via automated interfaces for both Forecast and Shipping Instructions. Responses such as Order Acknowledgements can be integrated into customers systems.
- Information is validated and any errors or warnings are displayed on-line.
- Updated requirements can be published exactly as sent, or if the Delivery module is implemented, additional deliveries made since the requirements were calculated will be netted off.
- On-line maintenance of Shipping Instructions allows delivery dates and quantities to be adjusted.
- Option to require suppliers to acknowledge orders prior to shipment.
- Requirements can be printed (all or by item) if required.
- Notes can be sent at header or line level.
- Optional downloads via the PC are provided in a range of standard formats to provide electronic copies of forecast and shipping instructions to suppliers.
- Demand automatically analyses changes to schedules and proactively warns of exceptional increase or reduction in demand (using the customer's definition of exceptional).
- If desired, the Fulfilment Network Rules Maintenance can be used to define the supply chain or network in terms of a number of 'nodes' between which transactions take place. Each delivery point, supplier, despatch point, stock-holding location and third-party entities (such as carriers, warehouse management services etc,) can be defined. For each link between each node, attributes can be defined such as
  - preferred or default fulfilment method (schedules, discrete orders, Kanban, Inventory Planning.
  - timing of invoicing and parties involved (payor/payee).
  - for each available fulfilment method, the types of and rules for inventory updates can be defined.
  - for each fulfilment method, automation of the receipt process from despatch details can be selected if desired.
  – for each fulfilment method, the rules for invoicing (quantity to invoice) and the date of pricing can be selected.
- For Kanban and Inventory planning details of the items to be supplied within a Network Rule can be maintained. These include min/max balance, lead times, container quantities, weights, volumes etc).
- If desired, price information for each item may also be maintained within Wesupply.
- A summarised view of demand (forecast or shipping instructions) is given in the Master Schedule Report. This report can be configured to summarise data in user-defined time buckets, and shows

original or outstanding demand for each item/supplier/contract. This report can be viewed online or downloaded for local printing and review.

Features

- E-Mails can be sent to nominated parties to inform them that the Forecast or Shipping Instructions have been updated by the customer.
- 'Alert' messages are generated, on receipt of updated Shipping Instructions, for Arrears (overdue items) or changes to requirements already shipped.
- The severity of alerts is user-definable, and is displayed as a colour-coded message.
- Alert messages can be supplemented with E-Mails to user-defined personnel at both customer and supplier if the message is not acknowledged within a user-defined period.
- Analysis of changes in Forecast and Shipping Instructions is performed for user-defined periods and user-defined percentage and quantity tolerances.
- Creation of electronic copies of Forecast and Shipping Instructions for suppliers is automatic: suppliers can list files available for download and obtain them on a self-service basis at any time. Formats available range from standard EDI messages (e,g, Odette DELINS) to simple PC files.
- User-defined parameters control how Arrears are processed – are they to be delivered immediately or added to the next delivery?
- Price details include effectivity date ranges and up to 5 Quantity Breaks per pricing rule.

4.2   Item Demand

Access and Availability

Access by selecting Item Demand from the Demand menu tab.
Available to Customer and Supplier

Search

Results

Function

- The initial Item Demand List provides both Customer and Supplier with a view of demand.
- Each line of demand is uniquely identified by Ship-To Address, Ship-From Address, Part Number, Contract and Engineering Level.
- The lines are displayed in either Customer or Supplier Part Number Sequence depending on the type of user.
- The date and time of the last update to both Forecast and Shipping Instructions is displayed.

- The Comparison Exception columns on the right denote if comparison exceptions exist which can be accessed via the exception counters on the 'home page'.
- A 'Hover' feature is available that switches Customer numbers and descriptions to Supplier numbers and descriptions (or vice versa) as the cursor is moved over the selected line.

Ship to	Ship from	Item	Description	Contract	Eng. Level	Expeditor	Carrier	Detail		Forecast Rel / Date / Time	Ship Instr. Rel / Date / Time	Comp. Except.	
								F.c.	S.I.			F.c.	S.I.
00001		ERPITEM101001 SUPITEM101001	ERP Item Desc - for ERPITEM101001	CONTRACT1	1.4	Expeditor 1		F.c.	S.I.	REL0008 15/03/2001 00:00	REL0008 15/03/2001 00:00		
00001		ERPITEM101002	ERP Item Desc - for ERPITEM101002	CONTRACT1	1.4	Expeditor 1		F.c.	S.I.	REL0008 15/03/2001 00:00	REL0008 15/03/2001 00:00		
00001		ERPITEM101003	ERP Item Desc - for ERPITEM101003	CONTRACT1	1.4	Expeditor 1		F.c.	S.I.	REL0008 15/03/2001 00:00	REL0008 15/03/2001 00:00		
00001		ERPITEM101004	ERP Item Desc - for ERPITEM101004	CONTRACT1	1.4	Expeditor 1		F.c.	S.I.	REL0008 15/03/2001 00:00	REL0008 15/03/2001 00:00		

- The list shows details of the date and time of the current release of information and highlighted in red are the selection points for viewing each item's Forecast and Shipping Instruction details.
- A 'Hover' feature is available over the Date/Time columns to show Customer/Supplier local times.

Ship to	Ship from	Item	Description	Contract	Eng. Level	Expeditor	Carrier	Detail		Forecast Rel / Date / Time	Ship Instr. Rel / Date / Time	Comp. Except.	
								F.c.	S.I.			F.c.	S.I.
00001		ERPITEM505001	ERP Item Desc - for ERPITEM505001	CONTRACT1	1.4	Expeditor 1		F.c.	S.I.	REL0008 12/03/2001 00:00	REL0008 12/03/2001 00:00		
00001		ERPITEM505002	ERP Item Desc - for ERPITEM505002	CONTRACT1	1.4	Expeditor 1		F.c.	S.I.	REL0008 12/03/2001 00:00	The date/time shown is Customer local time. Date and time in Supplier local time is 12/03/2001 04:00 (+4 hours).		
00001		ERPITEM505003	ERP Item Desc - for ERPITEM505003	CONTRACT1	1.4	Expeditor 1		F.c.	S.I.	REL0008 12/03/2001 00:00			
00001		ERPITEM505004	ERP Item Desc - for ERPITEM505004	CONTRACT1	1.4	Expeditor 1		F.c.	S.I.	REL0008 12/03/2001 00:00			

- The information is provided through an interface from the Customer's ERP system. Forecast information is usually generated from future planned purchase orders whilst Shipping Instructions will be taken from firm purchase orders or contract schedule lines.

Ship to	Ship from	Item	Description	Contract	Eng. Level	Expeditor	Carrier	Detail		Forecast Rel / Date / Time	Ship Instr. Rel / Date / Time		
00001	00001	ERPITEM00001003	ERP Item Desc - for ERPITEM00001003			Expeditor 1	Carrier 10		S.I.				
00001	00001	ERPITEM00001003	ERP Item Desc - for ERPITEM00001003	CONTRACT1	1.4	Expeditor 1	Carrier 10	F.c.	S.I.	REL 09/10/2001 00:00	REL0002 08/10/2001 00:00	!	
00001	00001	K01	Cust Kanban item 1			Expeditor 1		F.c.	S.I.	REL 09/10/2001 00:00			

Criteria	Previous Page	Next Page

- Demand List paging displays at the foot of the Demand List. The current page is displayed and subsequent pages are displayed by clicking the Next page button. The Previous Page button when selected displays the previous Demand list page.

4.2.1   Item Forecast Detail

Access and Availability

Access from the Item Demand List panel. Hover the cursor on the item line, right click and select Forecast (FC).
Available to Customer and Supplier.

Function

• The Item Forecast Detail displays future forecast requirements listed by Date and Time.

• The Required date may be either Delivery date or Shipping date according to Customer set parameters. In either case the correct heading will be applied to the display. A 'hover' feature is available over the Delivery Date and Time column indicating Customer/Supplier local time.

• The Part Number and Description will be in either Customer or Supplier sequence with the ability to 'hover' the cursor over these fields to switch to the opposing detail.

• The original Customer Part and Description may be switched to display those of the Supplier.

Buttons

Information   'Hovering' the cursor over the information button causes a display to appear showing the following fields:-
                           Item Unit of Measure

Lot Control Status
Comparison Exception Status
Requirement Date Basis (Which of Delivery or Shipment Date will be used in the display and for calculations)

Reconciliation   'Hovering' over the Reconciliation button causes a display to appear showing information relating to the last transaction and last shipment receipt transaction in the Customer's ERP system and also the last Wesupply transaction. This information is used in the reconciliation

4.2.2 Item Shipping Instruction Detail

Access and Availability

Access from the Item Demand List panel. Hover the cursor on the item line, right click and select Shipping instructions (SI).
Available to Customer and Supplier.

Function

- The Item Shipping Instruction Detail displays firm requirements that are due for delivery in the short term in date and time sequence.
- Clicking on quantities underlined and highlighted in red allows the user to 'drill down' for more information.
- Quantities in the Adjusted Qty column are underlined and highlighted in red to show that they have been changed - in the case above this is through system intervention, which can be seen in the 'Source' column.
- The Source column may show :
  - **ERP -** for interface generated demand,
  - **MANUAL -** where the demand has been subsequently altered or created manually.
  - **SYSTEM** - where the demand has been generated as a result of mis-shipping or mis-receiving.
  - **KANBAN -** Where the demand has been created by the Kanban module.

- The Shipped Quantity column entry is highlighted when a mis-ship has taken place against this Shipping Instruction and is discussed in more detail in the Supplier Shipment Confirmation section.
- The Amend column allows the Customer to select a Shipping Instruction in order to change the details. *This function is not available to the Supplier.*

Buttons

Information   'Hovering' the cursor over the information button causes a display to appear showing the following fields:-
Item Unit of Measure
Lot Control Status
Comparison Exception Status
Requirement Date Basis (Which of Delivery or Shipment Date will be used in the display and for calculations)
Kanban details when the Wesupply Kanban module is in use for this item.

Reconciliation   'Hovering' over the Reconciliation button causes a display to appear showing information relating to the last transaction and last shipment receipt transaction in the Customer's ERP system and also the last Wesupply transaction. This information is used in the reconciliation calculation.

Add   The Add function allows Customers to create additional Shipping Instruction lines. *This function is not available to Suppliers.*

Notes   The Notes button displays a Shipping Instruction Notes page where additional notes that are generated through the ERP interface may be displayed.

4.2.3   Add Shipping Instruction

Access and Availability

Access from the Item Shipping Instruction Line by clicking on the **Add** button to create or right click and select **Amend** for the selected item.
Available to Customer only.

Function

• Enables the User to add new Shipping Instructions.

N.B. To allow this facility the General configuration settings field 'Add New Shipping Instruction' must be set to Yes. Users may also have to manually adjust their own ERP system order details.

4.2.4   Amend Shipping Instruction

Access and Availability

Accessed from the Item Shipping Instructions, right click and select Amend for the selected item. Available to Customer only.

Item shipping instruction detail							Last refreshed: 12:09:06 19/05/2003	
Ship to			00001 - SBI US Facility	**Ship from**			USA Releases Supplier	
Release number			REL	**Release date / time**			18/05/2003 00:00	
Item			ERPITEM101001	**Description**			ERP Item Desc - for ERPITEM101001	
Contract number			CONTRACT1	**Engineering level**				
Planner			Expeditor 1	**Cumulative quantity received**				0
Customer stated arrears			50					
Late rejects this cycle			0					
Purchase order			1910235301					

Information   Reconciliation

Delivery date / time	Shipment id	Ship. line id	Source	Ordered qty	Adjusted qty	Shipped qty	Received qty	Status	Notes
18/05/2003 10:00	60000491	70002359	ERP	100	100	0	*OVERDUE*	Created	No
19/05/2003 10:00	60000492	70002360	ERP	200	200	0	**Amend** Notes	Created	No

Add | Notes | Previous page | Next page | Print | Refresh | Cancel

Shipping instruction - Amend		Last refreshed: 12:05:33 19/05/2003
Ship to	00001 - SBI US Facility	**Ship from** USA Releases Supplier
Release number	REL	**Release date / time** 18/05/2003 00:00
Item	ERPITEM101001	**Description** ERP Item Desc - for ERPITEM101001
Contract number	CONTRACT1	**Engineering level**
Quantity UOM	EA	
Planner	Expeditor 1	**Date basis** Delivery

Delivery date / time	18/05/2003 10:00		
Shipment id	60000491		
Shipment line id	70002359		
Adjusted qty	100	**Delivery dock**	Loading Bay A
Expected net weight	5	**Delivery gate**	GATE 1
Expected number of packs	1	**Delivery reference**	
		Container id	
Unit price	115.5900000	**Price basis**	1 - Price per UOM
Price multiple	0.000000000		
Tax code/rate	S 17.50	**Tax basis**	Taxed
% To QA	10	**Exclude from forecast consumption**	○ YES ● NO

Save | Refresh | Cancel

Function
- Enables the User to maintain details on existing Shipping Instructions.
- The Shipment Line Id may default to the original Purchase Order Line Number depending on the interface to the Customer's ERP system.
- The Delivery Date & Time, Shipment Id and Shipment Line Id and Adjusted Qty will be blank when the Add function is used.
- 'Exclude From Forecast Consumption' flag may be set to 'Yes' if this requirement should not affect remaining Forecast demand.

4.2.5   Reconciliation Process

The Demand and Delivery modules work together to ensure that the Shipping Instructions displayed to the supplier always display the true net outstanding demand. Shipments and receipts confirmed in Wesupply may immediately affect the quantity outstanding to ship depending upon system parameter settings.

When the Demand information (Forecast or Shipping Instructions) is updated via the interfaces it is vital that the Wesupply application knows how many of the shipments and receipts have been recorded in the Wesupply application and how many have been recorded in the system from which the updated demand has been generated.

In order to control this function the RECONCC group of parameters contains a flag - 'Key field for reconciliation', which determines how the system will establish what adjustments (if any) to make to updated demand information and thus take into consideration Goods In Transit (shipments known to Wesupply but not to the ERP system). This setting determines which field in the interface record will be used to compare the Last Transaction known to the ERP system with the Wesupply history. Options are 1=Wes Transaction, 2=Wes Ship ID, 3=Supp Ref.

The interface from the Customer's ERP system passes over to Wesupply the 'Last Transaction considered by ERP system' and associated fields.

An identical group of fields is also provided on the interface files for the provision of information specifically related to the last Receipt transaction. Where the Last Transaction considered by the ERP system is in fact a Receipt (which will often be the case) the two sets of fields will contain essentially the same information. Where the Last Transaction considered by the ERP system is a Rejection or other Adjustment the two sets of fields will be different.

Where a receiving interface exists to pass receipt information from Wesupply back to the Customer's ERP then this information is contained within a closed loop. However, in circumstances where an interface is not in place, great care should be taken in determining the correct setting of the above parameter and establishing the routines that ensure that the correct information is available.

4.2.6   Event Management – Exception Messages

Access and Availability

Accessed by selecting Exceptions from the Event Management menu tab.
Available to Customer and Supplier.

Search

Forecast

- Hover over the exception message and select **View** to display the detail.

Shipping Instruction

Exceptions						Last refreshed: 14:08:09 19/05/2003

Search	Forecast	**Shipping instructions**

⚠ **High**   ⚠ Medium   ⚠ Low

Ship to	Supplier	Ship from	Item	Contract	Engineering level	Number of exceptions
00001	USA Releases Supplier		ERPITEM101001	CONTRACT1		2
00001	USA Releases Supplier		ERPITEM101002	CONTRACT1	**View**	2

Search	Previous page	Next page	Refresh

- Hover over the exception message and select **View** to display the detail.

Shipping instruction comparison exception	Last refreshed: 14:08:57 19/05/2003

Ship to	00001 - SBI US Facility	Ship from	USA Releases Supplier
Supplier	101 - USA Releases Supplier	Item	ERPITEM101001
Contract	CONTRACT1	Eng. level	

Current release	REL0002	19/05/2003 00:00			

Comparison exception detail

Exceptional changes have occurred between the following releases:

From	REL	18/05/2003 00:00	Arrears	50.000
To	REL0002	19/05/2003 00:00	Arrears	50.000

Period start	Period end	Release quantity		Percentage change	Max percentage	Severity
		REL	REL0002			
19/05/2003 00:00	19/05/2003 23:59	200	100	-50.00	5.00	High
20/05/2003 00:00	20/05/2003 23:59	0	200	100.00	5.00	High

Read all	Previous page	Next page	Refresh	Cancel

Function

- Displays a list of Forecast or Shipping Instruction exception messages relevant to the level of severity.
- The number on the main display denotes the number of messages on the list.
- The comparison exceptions are based upon the defaults specified in Configuration, Settings.
- Displays the detail of the exception message
  - Lists the start and end date of the time bucket used in the comparison.
  - Shows the current and previous quantity and the percentage change.
  - The last column shows the percentage limit for this particular comparison.
- The start and end dates for each comparison period are determined by the number of time buckets and their type (Hourly, Daily, Weekly, 4-Weekly and Monthly) as defined by the Configuration Settings.

Example

The Configuration settings process asks for the number of each of three different levels of time bucket.

e.g.
- Level 1 buckets may be Type 2 (Daily) and there are 5 of them.
- Level 2 buckets may be Type 3 (Weekly) and there are 3 of them.
- Level 3 buckets may be Type 5 (Monthly) and there are 5 of them.

For comparison purposes we now nominate how many buckets should be compared for Severity level 1, 2 and 3 and their associated percentages.

e.g.
- Severity 1 comparisons may be carried out across the 5 time buckets (in this case all of the daily buckets). The maximum percentage change might be 10%.
- Severity 2 comparisons may be carried out across the next, say, 1 bucket (in this case 1 of the weekly buckets. The maximum percentage change might be 25%.
- Severity 3 comparisons may be carried across the remaining 7 buckets and the percentage change might be 50%.

In addition, where a zero quantity occurs for either the current or old quantities then a fall back, absolute, quantity is also defined.

4.3   Kanban

The Kanban module provides all the functions needed to support the use of a Kanban ordering process with suppliers.

Functions

- Kanban configuration settings such as Kanban number, box quantity, minimum balance and delivery lead time can be maintained.
- A calendar of delivery time slots can be maintained for each supplier/delivery point, and is used in conjunction with the lead time to calculate the expected delivery date and time.
- Kanban cards can be created, printed, reprinted, temporarily suspended or permanently deleted.
- Shipping Instructions may be generated by entering or scanning Kanban cards.
- The system can calculate the optimum number of Kanban cards for an item and recommend changes to this number.
- Average daily usage is calculated from either historical data or from forecast demand, or may be overridden manually.
- A Kanban enquiry provides a simple, graphical display of the status of each item, including full containers, empty containers, on-order and in-transit containers,

Features

- The length of the Kanban number and serial number fields can be user-defined.
- Each Kanban card instruction may be treated as a discrete order line, or requirements can be summarised by item/supplier/delivery point.
- Calculation of optimum number of containers can be turned on or off by supplier/delivery point.
- Calculation of average usage from history or forecast can be selected by the user, as can the length of time (past or forward) to be used in the calculation.
- Once configuration settings are set, calculation is an automatic process run daily.

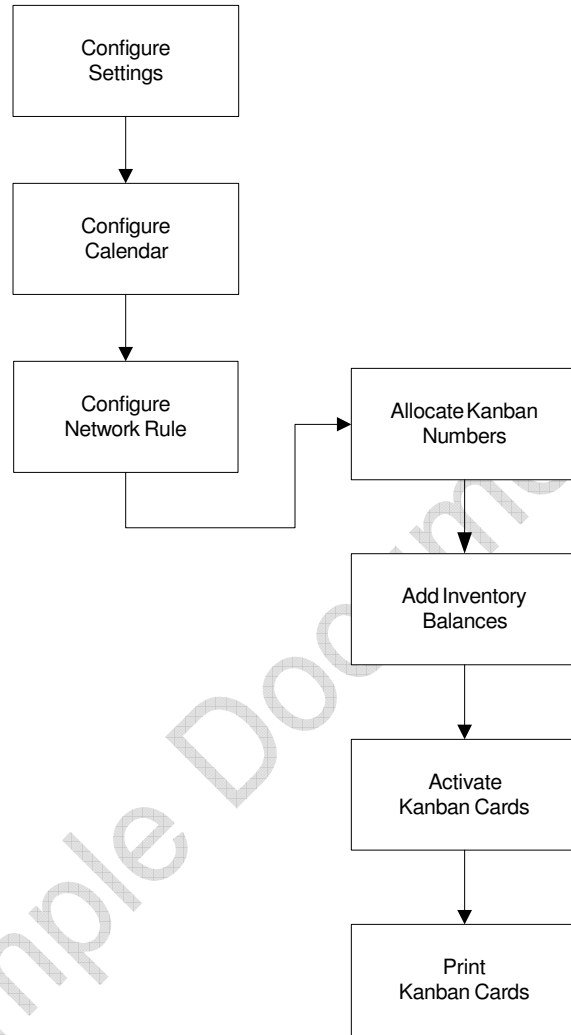**Terminology**

- **Kanban Number**
  A unique identifier that is used to identify an item for replenishment, independently of the item number. Kanban numbers may be updated via the Item interface, by manual entry, or allocated from a System Counter. The Kanban number is alphanumeric and will contain leading zeroes when a number is used.

- **Serial Number**
  A unique number used to identify a given Kanban card in association with a Kanban number. Each Kanban number has serial numbers beginning at 1.

- **Kanban Card Number**
  The Kanban Card number is a concatenation of the Kanban number and the serial number.
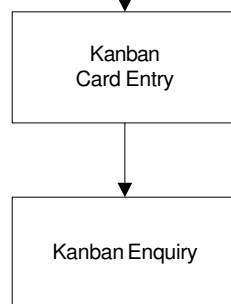
4.3.1   Kanban Process

Configuration

```
        ┌──────────────┐
        │  Configure   │
        │  Settings    │
        └──────┬───────┘
               │
               ▼
        ┌──────────────┐
        │  Configure   │
        │  Calendar    │
        └──────┬───────┘
               │
               ▼
        ┌──────────────┐          ┌──────────────────┐
        │  Configure   │──────────▶│ Allocate Kanban  │
        │ Network Rule │          │     Numbers      │
        └──────────────┘          └────────┬─────────┘
                                            │
                                            ▼
                                  ┌──────────────────┐
                                  │  Add Inventory   │
                                  │    Balances      │
                                  └────────┬─────────┘
                                            │
                                            ▼
                                  ┌──────────────────┐
                                  │    Activate      │
                                  │  Kanban Cards    │
                                  └────────┬─────────┘
                                            │
                                            ▼
                                  ┌──────────────────┐
                                  │     Print        │
                                  │  Kanban Cards    │
                                  └────────┬─────────┘
                                            │
 Kanban Processing _____
                                            │
                                            ▼
                              ┌──────────────────┐
                              │     Kanban       │
                              │   Card Entry     │
                              └────────┬─────────┘
                                       │
                                       ▼
                              ┌──────────────────┐
                              │  Kanban Enquiry  │
                              └──────────────────┘
```

4.3.2   Kanban Configuration Settings

Kanban Options

Access and Availability

Access by selecting Kanban options from the Configuration Settings menu tab.
Available to the Customer.

Function

- To define the structure of the Kanban card number.
- Used to validate the Kanban number entered in Item Fulfilment Maintenance.

N.B.
This configuration setting must be defined prior to use of Kanban processing.
The total length of the Kanban Card Number effectively defines the length of the serial number
and should be set to accommodate the maximum number of cards for any one item.

A Kanban Number length of 4 and a Kanban Card Number length of 6 will allow up to 99 cards
to be used within any one Kanban number.

Do **NOT** change this configuration setting once created.

Kanban Options (Supplier)

Access and Availability
Access from the Kanban option (Supplier) from the configuration settings menu tab.
Available to the Customer.

Function

• Defines the way in which Kanban processing will be performed by the application for 'Customer/Ship to/Supplier/Ship from' combination.

Panel Entries

Consolidate Kanban requirements	Demand created from the input of Kanban cards will be the total quantity required for an item found on one or more Kanban cards. Select Yes or No. **Yes,** i.e., if the user scans three cards for the same item on the same day and Yes is specified in this field, then only one consolidated shipment line will be displayed. Note: this does mean that individual Kanban cards cannot be tracked. Wesupply summarises the total number of cards for the total quantity required. **No,** Each card will create a discrete demand line for Kanban card scanned.
Allocate Kanban Numbers	Future development. Kanban numbers must be allocated using Item Fulfilment Maintenance.
Recommend number of Kanban Cards	**Yes**, the number of Kanban cards in circulation will be calculated and recommended by Wesupply for items where the fulfilment method is Kanban. **No**, no automatic calculation for recommended

	number of cards.
Calculate average usage history from issues.	**Yes,** an average daily usage quantity will be calculated based on the history of confirmed shipments. The calculation takes place at the end of day as part of the WESDAILY routine. **No,** no calculation required.
Number of days for historical usage.	Enter the number of days over which the issue quantity is to be averaged.
Calculate projected average usage from forecast	**Yes,** an average daily usage will be calculated based on forecast requirements. The calculation takes place at the end of day as part of the WESDAILY routine.
Number of days for forecast average	Enter the number of days over which the forecast quantity is to be averaged.
Card calculation method	**Historical -** Use the average usage derived from issues to calculate recommended number of Kanban cards. **Projected -** Use the average usage derived from forecast to calculate recommended number of Kanban cards.
Card calculation time unit	This entry is a free text description used to describe the frequency of deliveries and appears on the Item Fulfilment panel as "Deliveries per *free text*", e.g., Deliveries per day or shift.
Allow Shipment of partial container quantities	**Yes**, permits the entry of any quantity up to and including the ordered quantity. Odd quantities shipped that does not divide exactly by the Kanban quantity will be treated as a complete container (1 card). The 'Balance to ship' field will only be displayed on the shipment confirmation panel for Kanban items if there is actually a balance to ship and will not be input capable. The balance to ship will automatically be rounded down to an exact multiple of the Kanban quantity. If under-receiving, any odd quantity will be rounded up to a complete Kanban container quantity before being added to a future shipment. Also note that only the odd quantity (i.e., not a multiple of the Kanban quantity) what will be permitted in the rejection or approval panel fields

	and will be a quantity equal to any odd quantity already in QA or a quantity equal to an exact multiple of the Kanban quantity plus any odd quantity in QA. **No**, shipments of partial container quantities will not be allowed.

4.3.3   Kanban Calendar Maintenance

Access and Availability

Access by selecting Calendar from the Configuration menu Tab.
Available to Customer only.

Function

- The calendar entries determine the shipment/delivery dates and times for shipments which are created by Kanban Card Entry processing.
- Calendars may be defined at global level or at lower levels such as Supplier and Ship-to.
- The Kanban calendar is used to determine the next required delivery date and time for items whose demand is created by processing of Kanban Card entries through the Wesupply Kanban module.
- Non-working holiday or shutdown periods may be added selectively.
- Enables the user Amend, Copy or Delete calendar settings.
- Select the **Create Holidays** button to set up holidays as non working days.

Create Holidays

- Select the Add button to add a calendar occurrence entry.

- To add a new calendar occurrence.
- Duplicate entries are prevented by validation.
- Calendars may be applied to all Ship-to's by the use of an '*' entry.
- Select the **Confirm** button to maintain delivery slots.

- To specify the delivery time slots according to the selected level. Up to 50 different time slot entries may be made on this panel.
- The Kanban module processing uses this calendar, together with the number of delivery slots lead-time entry for an item to determine the next delivery slot. e.g. the calendar is set for deliveries every day at 08:00 and 14:00; the lead-time of item A is 3 delivery slots and there are no deliveries on Saturdays or Sundays.
- Any cards for item A read in before 14:00 on a Thursday will create demand for item A for delivery at 14:00 on Friday. (The third delivery time slot from the time and date the card is read.)
- Any cards for item A read after 14:00 on Thursday, but before 08:00 on Friday will create demand for item A for delivery at 08:00 on the following Monday.
- The day may be defined as a non working day and no shipments/deliveries will be assigned to that day.
- Leave the Working box un-ticked if you want set up the calendar day as a non-working day.

- Select the Save button to save and update your entries.

4.3.4   Allocation of Kanban Numbers

Access and Availability

Kanban numbers are allocated and assigned to items using Item Fulfilment Maintenance which is accessed by clicking on the 'Items' column on the Network Rules panel.
Available to the Customer only.

A Fulfilment Network Rule must be created which establishes the Customer ship to and Supplier ship from information necessary for the creation of demand by Kanban processing.

• Hover over the item line, right click and select Amend to maintain the item details.

- Item Fulfilment Maintenance with a Fulfilment Method of Kanban is used to associate the item number and its parameters with the Kanban number.

Panel Entries

ERP Item	Item code as used within the customer ERP system.
ERP Item Description	Free format item description.
Supplier item	The Supplier item code.
Supplier Item Description	Free format item description.
Engineering Level	Optional.
Contract	Optional.
Planner	Optional. Relevant to data filters assigned to Wesupply users.

To Warehouse /From Warehouse	Warehouse entries may be selected from the drop down list. Warehouses are created using the Warehouse option from the Maintenance menu tab which is only available if the Wesupply Inventory module is installed. N.B. Inventory transactions will be created for the warehouses according to the parameters selected on the Network Fulfilment Rule that applies to the item.
Fulfilment Method	Select **Kanban** from the drop down list.
Date basis	Select either Shipment or Delivery basis. This determines which date is populated on the shipment lines. Kanban is usually delivery based.
UOM	Select the unit of measure from the drop down list This it item information only. It is not used to calculate any other Wesupply field.
Lot Number Required	Select either Yes or No from the drop down list.
Container Quantity	The number of parts in a Kanban container. This is the item quantity that will be placed on order each time a Kanban card is entered or scanned into the Kanban Card Entry panel. This entry is used in the calculation of the recommended number of Kanban cards.
Round requirements to container quantity	If 'Round requirements to container quantity' on the Network rule is set to **Yes** then round up to the next container quantity. If (the resulting quantity plus the projected On Hand at time of delivery) is > Max Balance, round down to the maximum number of containers which fit under the Max Balance, unless the number of containers is 1 in which case leave it alone.
Price Source	The price source entry will default to 'Price List' for Kanban items.

Invoice Item	Select YES if Wesupply will generate invoices for this Item Fulfilment / Item.
Lead Time to shipment	Select from the drop down list. Choose from Lead Time specified here, Use network rule or Same day.
Override Lead Time to shipment (days)	Specify the lead time in days. N.B**.** For Kanban items with a Delivery slots Lead Time = 1 the lead time is added to the date and time of input before finding the next delivery on the delivery calendar
Override Lead Time to shipment (hours)	Specify the lead time in hours.
Container Gross weight	Optional. The gross weight of the container.
Container Volume	Optional. The volume of the container.
Recommended shipment calculation	Choose from **Fill to maximum** or **Replace consumption** from the drop down list. N.B. Recommended shipment quantity calculation = if the On Hand Balance (OHB)<(min balance + forecast qty total Working Days Consumption Period) then recommend ship qty = ((min balance + forecast qty)-OHB).
Consumption calculation period (days)	If the option for **Recommended shipment calculation** is '**Replace consumption'** the user is required to define a period (working days) for which consumption is to be calculated.
Apply economic order quantity	Select from the drop down list, **No, As a minimum, Always** of you want ran economic order quantity to be applied.
Economic order quantity	Specify an economic order quantity if required.
Purchase order	Specify a default PO number for the item.
Purchase order line	Specify PO line number for the item.

Effective Start Date.	The start date that this item fulfilment record will be associated with the Kanban number.
Effective End Date	The end date that this item fulfilment record will be associated with the Kanban number. N.B. It is possible to hold multiple Item Fulfilment records for the same Kanban number provided the effectivity dates do not overlap.
Kanban Number	The Kanban number for this item.
Delivery Slots Lead Time	This entry, together with the delivery calendar, will determine the shipment/delivery date for Ship Instructions that are created by Kanban card input. An entry of 3 will cause the system to create Ship Instructions for the third delivery due after the input date and time.
Deliveries per - Memorandum entry to provide a reference for the *"Configuration setting"*	The quantity entered against the average usage for card calculation.
Current cards.	The total number of Kanban cards existing for this Kanban number.
Current Active Cards	The total number of active Kanban cards existing for this Kanban number.
Recommended Cards.	This entry may be calculated by the system or input by the user. The number of recommended cards will be calculated according to the formula: **Average usage for card calculation + Minimum Balance Container Quantity**
Calculated at	The date and time the system last generated a Recommended Cards quantity.
Average usage for Card Calculated	The expected quantity of this item that will be **Calculation** consumed within the delivery lead time. Input by user or system generated according to Kanban Options (Supplier) configuration setting.

Locked	Locking the record will prevent the system from recalculating the recommended number of cards. This entry will protect the system form reacting to blips in demand and automatically updating average usage.
Average Daily Usage (Past)	This information will be present if the Kanban Options (Supplier) configuration settings are set to calculate average usage history.
Average Daily Usage (Forecast)	This information will be present if the Kanban Options (Supplier) configuration settings are set to Calculate projected average usage.
Container Summary	The Container Summary shows the status of all active containers. The user may change entries but the total cannot be less than the number of active cards.

- The **Save** button validates the entries made and returns to the Item Fulfilment List panel if there are no errors.
- The **Confirm** button confirms the number of Kanban Cards currently active.
- The **Calculate Recommended Cards** button calculates the number of cards according to the recommended number of cards formula as listed.
- Select the **Balances** button to enter minimum/maximum inventory balances.

Balances

Panel Entries

Minimum balance	Enter the **minimum balance** / safety stock quantity for this item.
Maximum balance	The quantity entered must be greater than the minimum balance.
Minimum balance locked	Select **Yes** or **No**.
Maximum balance locked	Select **Yes** or **No**.
Minimum balance cover (days)	Specify the minimum **number** of days cover required for the item.
Number of days forecast to analyse	Specify the **number** of days forecast to analyse.

- Select the **Kanban Cards** button to access the Kanban Card Detail panel.

- This panel allows the addition and maintenance of individual Kanban cards. The status of each card and container is displayed
- Hover over an existing Kanban card, right click and select amend to maintain Kanban cards. This feature allows the user to physically remove Kanban cards from the process and update the system to reflect that action. It also allows the user to set the statuses of cards and containers when Kanban cards are first created for an item that has previously been processed by some other method.

Kanban card detail - A1			Last refreshed: 15:01:41 09/06/2003

Current cards	9	Active cards	9
Recommend cards	0	Calculated at	09/06/2003 14:59

Container summary	Full	Empty	On order	In-transit
	5	4	0	0

Serial number	Container status	Card Status
001	On order	Active
002	On order	Active
003	Full	Active
004	Full	Active
005	Full	Active
006	Empty	Active
007	Empty	Active
008	Empty	Active
009	Empty	Active

Print
Amend
Delete

Add   Print All   Deactivate all   Delete all   Accept recommended cards   Previous page   Next page   Cancel

- The **Add** button enables the user to add new Kanban cards.
- The **Print All** button **p**rints all active Kanban cards.
- The **Activate All** button activates all Kanban cards.
- The **Deactivate All** button deactivates all Kanban cards.
- The **Delete All** button deletes all Kanban cards.
- The **Accept Recommended Cards** button sets the Kanban cards to equal the number of recommended cards. Visible only when the Recommended cards quantity is > 0.
- The **Cancel** button returns to the previous panel without updating.
- Hover over an existing Kanban card, right click and select Amend to maintain the card detail.

Amend Kanban Card

Amend kanban card	Last refreshed: 09:58:21 10/06/2003

Kanban number	A1
Serial number	001
Container status	On order
Card Status	Active

Save   Refresh   Cancel

- Enables the user to change the container status for the Kanban card selected. Choose from the following In active, Empty, On order, In-transit, Full.
- Enables the user to activate or de-activate the Kanban card.

4.3.5   Kanban Card Printing

Individual Kanban cards can be printed by clicking on the **Print** literal or **All** cards can be printed according to user requirement.

K01
‖‖‖‖‖‖‖‖‖‖‖‖‖
K000100001
Supplier: 00001
Cust Kanban item 1
Kanban No.   **Card No.**
K0001   **00001**
BIN LOC   DROP POINT   KLT QTY   STORE LOC
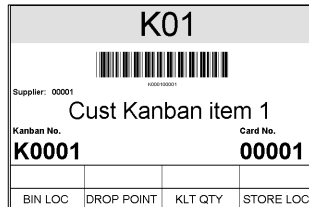
The **Serial number** is the unique card reference number within any Kanban number.

The **Container Status** shows the state of an individual container. Where Kanban created demand is consolidated it is not possible to track the status of individual containers.

The **Card Status** shows the status of each Kanban card. A card may be de-activated by use of the Amend function on this panel or by accepting a lower number of recommended cards than were previously active on the Item Fulfilment panel.

Kanban Card Deactivation

Where cards are deactivated by accepting a lower number of recommended cards than the currently active number of cards, the sequence of deactivation applied to containers by the system is as follows:

Empty – Full - In Transit - On order.

N.B. The action by the system to deactivate the container will only occur when the Kanban card is next input or scanned.

Kanban Card Reactivation

Where cards are reactivated, containers will be activated in the following sequence:

On Order - In Transit – Full – Empty - Inactive.

The Container Summary shows the status of all active containers.

Container Summary	Full	Empty	On Order	In-Transit
	0	0	0	0

4.3.6   Kanban Card Entry

Access and Availability

Access by selecting Kanban Card Entry from the Demand menu tab.
Available to Customer only.

Function
- To enable entry of Kanban card numbers by keystroke entry or using a keyboard wedge bar code reader.
- Cards may be input in any sequence and do not require sorting, either by item number or by supplier.
- The Kanban number is validated against the Item Fulfilment data in order to retrieve the actual item number, supplier code, delivery slot lead time and box quantity.
- Cards that are input twice within the same batch are rejected with a 'Duplicate Kanban Card entry detected' message with the cards in error highlighted. Thus if a user is in doubt as to whether an input has been made within the same entry panel, the card should be entered again and the Kanban Card entry validation will manage any duplicates.
- Where a Kanban Card has been de-activated, the operator will be instructed to remove that card from circulation when it is next scanned.
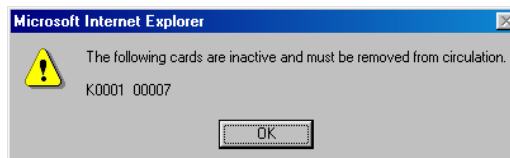
- The **Confirm** button validates and accepts the entries made. Create Demand for the items linked to the Kanban cards input.

4.4   Kanban Enquiry

<u>Access and Availability</u>

Accessed by clicking Kanban Enquiry from the Demand menu tab.
Available to Customer and Supplier.

<u>Search</u>

- The Kanban Enquiry search panel allows the user to determine which Kanban numbers will be displayed on the following enquiry panel.

<u>Results</u>

<u>Function</u>

- The Kanban Enquiry provides a highly visible method of displaying the container status of individual Kanban controlled items.
- The number of Kanban containers at each status for any item is maintained on the Container Summary section of the Item Fulfilment panel.

4.5 Purchase Order Enquiry

Access and Availability

Accessed by clicking PO Enquiry from the Demand menu tab.
Available to the Supplier Only.

Search

Purchase order enquiry						Last refreshed: 14:17:18 05/19/2003

	From or equal to	To
Purchase order		
Ship to		
Ship from		
Order date		
Ordered	Supplier, Order date, Purchase order	
Number of rows per page	18	

Go   Refresh

Results

Purchase order enquiry						Last refreshed: 14:18:21 05/19/2003

Order date	Purchase order	Lines	No. of units	Ship to	Ship from	Acknowledged
05/19/2003 08:00	210000	1	100	00001		No
05/19/2003 08:00	210001	1	200	00001	View	No
05/19/2003 08:00	210002	1	300	00001		No
05/19/2003 08:00	210003	1	400	00001		No
05/19/2003 08:00	210004	1	500	00001		No

Search   Previous page   Next page   Refresh

Function

- The Demand module includes provision for Discrete Purchase Orders to be sent from a external application (such as the customers ERP system), to be validated and loaded into the system.
- The Purchase Order Enquiry will enable the purchase orders sent in to Wesupply to be easily enquired upon.
- Select view highlighted in red from the table to display details of a purchase order.
- View purchase order detail.

Purchase order detail   Last refreshed: 14:20:19 05/19/2003

Purchase order	210000	**Order date**	05/19/2003 08:00
Planning method	Planned by system		

Supplier   202 - USA Discrete Orders
Ship from USA Discrete Orders
               Cement Road   **Ship to**   00001 - SBI US Facility
               Portland   Southfields
               Denver   Michigan
               Colorado   USA

Line	Required date / time	Item	Description	Shipment id	Shipment line id	Adjusted qty	Status	Notes	Pricing change
1	05/19/2003 18:00	SUPITEM202000001	SUP Item Desc - for SUPITEM202000001	60000494	70002369	100	Awaiting despatch	No	No

Notes   Previous page   Next page   Refresh   Cancel

View
Notes
Pricing change

- Select view to drill down further and view the detail of each purchase order line.
  N.B.: Adjustments highlighted in red may also be viewed.

Purchase order line detail   Last refreshed: 14:21:14 05/19/2003

Purchase order	210000	**Line**	1
Shipment id	60000494	**Shipment line id**	70002369

Supplier   202 - USA Discrete Orders
Ship from USA Discrete Orders
               Cement Road   **Ship to**   00001 - SBI US Facility
               Portland   Southfields
               Denver   Michigan
               Colorado   USA

Item   SUPITEM202000001   **Description**   SUP Item Desc - for SUPITEM202000001

Quantities

Quantity UOM	Ordered	Adjusted	Shipped	Received	Rejected	In QA	QA approved	QA rejected	Status
EA	100	100	0	0	0	0	0	0	Awaiting despatch

Pricing

Currency	Tax code	Tax rate	Original price		Current price	
USD	VAT17.5	17.50	115.5600000	Per unit	115.5600000	Per unit

Notes   Refresh   Cancel