



Warehouse Management System

User Guide

Version 5.395.1b

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Solutions Pte Ltd

PREFACE

This manual is written for CRiSTAL Warehouse Management System Release **5.395.1a**

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Copies provided to end-users are strictly for the benefits of authorised users only.

This document aims to provide the users with step-by-step instructions on the functionality of each of the menu options. However, it is not meant as a substitution to the comprehensive training that is conducted as part of the implementation process.

For an overall understanding of CRiSTAL Warehouse Management System, please contact your implementation consultant for assistance or contact CRiSTAL Solutions Pte Ltd at:

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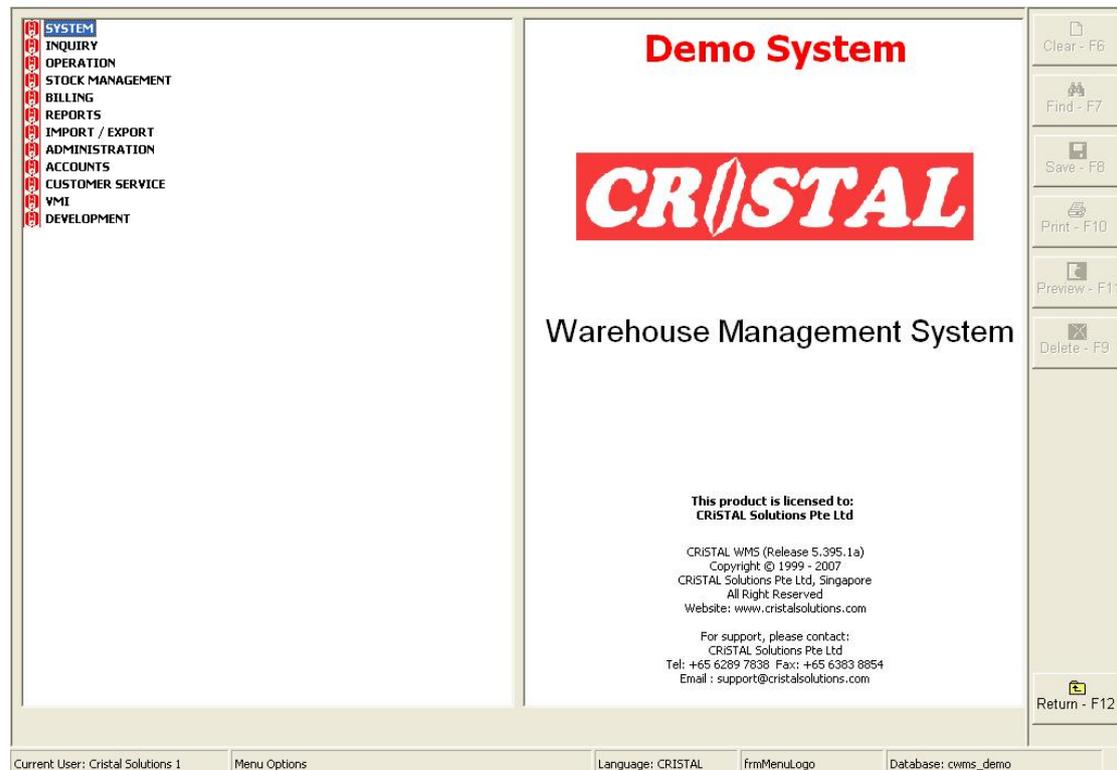
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1. GET STARTED

Computerised warehousing system has modernised and assists warehouse operation to achieve the level of accuracy and productivity that have long been sought by many warehouse management.

However, the introduction of computer into any operation often result apprehension among the operation floor personnel due to complexity of the system, perceived or otherwise.



CRISTAL Warehouse Management System is conceptualised and designed to overcome the apprehension of the floor personnel by ensure that the front end of the system is as friendly and ease of use as possible.

This is achieved by simplifying the user interfaces with the system and minimise data entry as much as possible, thereby making it simple for the floor personnel.

The system is designed as a user configurable rule-based system that allows the warehouse management and system administration to define and set up the system in accordance to the operational requirement.

The system bases on the defined parameters in directing the operation of the warehouse. However, as it is with any computer system, it is no replacement to the warehouse management. Rather it helps the warehouse management to take care of the routine operation like where a pallet of a specific product is to be stored.

This frees the warehouse management to take care of exceptions and perform the planning required to keep the warehouse operation at its optimal effectiveness and efficiency.

CRISTAL is a GUI based system that incorporated the legacy of text-based system to achieve the friendliness and ease of use that often missing from many other GUI based system. This is achieved by the combined use of the point-and-click approach introduced by Windows and the function keys legacy of text-based system.

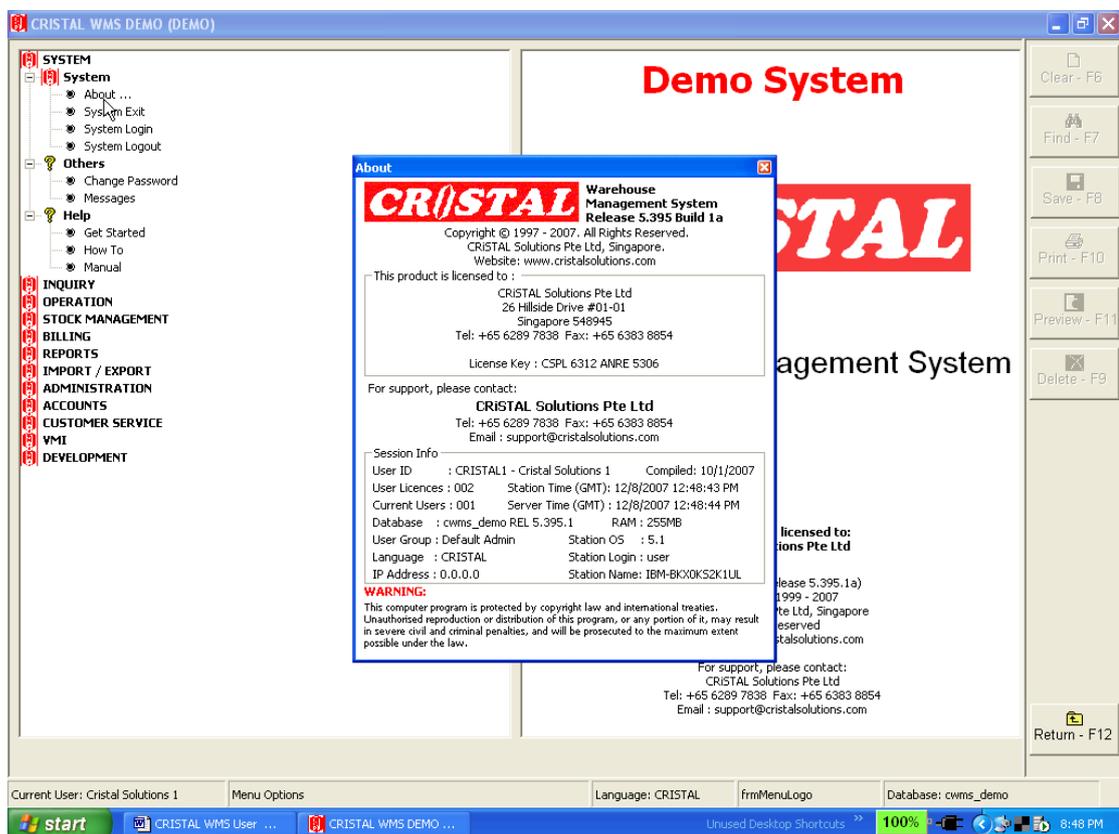
Users have the choice of using whichever methods they are more comfortable with.

However, it is important to note that CRISTAL is conceptualised, designed and built on Windows GUI platform rather than being ported from a text-based system that is the origin of many other system. As such, it does not face the ambiguity and inconsistency that is faced by other system.

Although the system is designed to be friendly and ease of use, the System Administrator must first define its parameters.

1.1. Version Type

This user manual is prepared for CRiSTAL WMS Release 5.395.1a. To familiar CRiSTAL WMS and User Manual, it is advised that user to check what's the current system version first. This is done on System -> System -> About.



Depending on the upgrading version, Users can still find this User Manual useful should newer version of CRiSTAL WMS is used.

1.2. Logging in

To use CRiSTAL Warehouse Management System, a user needs to have a user account and password.

Each user is assigned to a particular Access Group, which control the menu options that user is to have access.

It is the function of the System Administrator to set up and manage the user accounts.



When setting up a User account, the password is allocated by the system automatically or specify by the System Administrator. The Password can be specified as to be required to be changed regularly to enhance system security or be set to non-expiring for the convenient of the user.

On starting the system, the user is prompted to enter the User ID and Password. Each user is given 3 attempts to login. If a user failed to login within the 3 attempts, the User ID will be locked and need to be re-activated by the System Administrator. This configuration is adopted to minimise unauthorised entry.

Users are advised to logout whenever they are not using their workstation.

1.3. Action Keys

The action keys for the system is standardised for the whole system, shown on the right vertical of the above screen, to make it easy for the users:

Command Button	Function Key
1. Clear	F6
2. Find	F7
3. Save	F8
4. Delete	F9
5. Print	F10
6. Preview	F11
7. Return	F12

Although all the action keys are shown on every options of the menu, not all of them will be available. Those keys that are functional in the module shall be in black while those not available will be greyed.



1.3.1. Clear (F6)

Clear or press the F6 function key will clear the data displayed of the last selection or input in any screen.

If the displayed data are freshly entered it will lost.

If the displayed data are retrieved from the database, any amendment will not be updated.

1.3.2. Find (F7)

Find or press the F7 function key will cause the system to retrieve data related to selection criterion specified in search field and display the related information.

1.3.3. Save (F8)

Any data entered in any of the WMS windows, whether for a new record or amendment to an exiting record is held in memory buffer at the workstation.

It is updated and saved into the database when the Save button is clicked on or the function key F8 is pressed.

Failure to click *SAVE* and proceed to the next activity will result in the loss of the data displayed on the screen.

1.3.4. Delete (F9)

Delete or press F9 function key in any option erases the data or record that is display or selected.

1.3.5. Print (F10)

Print or pressing F10 prints the selected information in a pre-formatted report template.

1.3.6. Preview (F11)

Preview or pressing F11 displays on screen the selected report.

1.3.7. Return (F12)

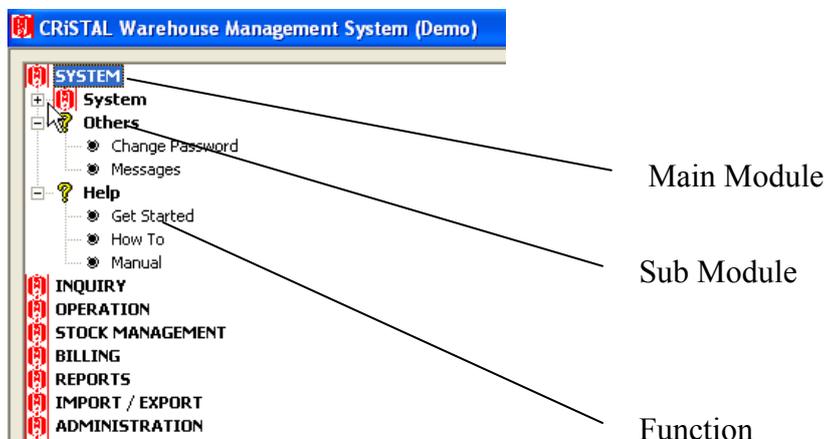
Selection of **Return** or pressing F12 function key causes the screen to return to the main menu screen.

WARNING: *If Return is selected before an entry is SAVE, the last input data will be lost.*

1.4. Navigate Modules and Sub Modules

In CRiSTAL WMS, it facilitate easy search of various functions with the various modular tiers system. When in use, double click the main module, the sub tier shall be expanded with a single click on the + or – box. Alternatively, double click on the sub module. Select the required function with a single click.

This multi-tier system provides a neat orientation of the overall functionality and user access.



1.5. Field Name and Control Convention

In CRiSTAL WMS, fields that are system defaulted are usually with beige background.

If no input is required, the field are usually greyed.

A warning message will be given when saving if any of the mandatory fields is left blank.

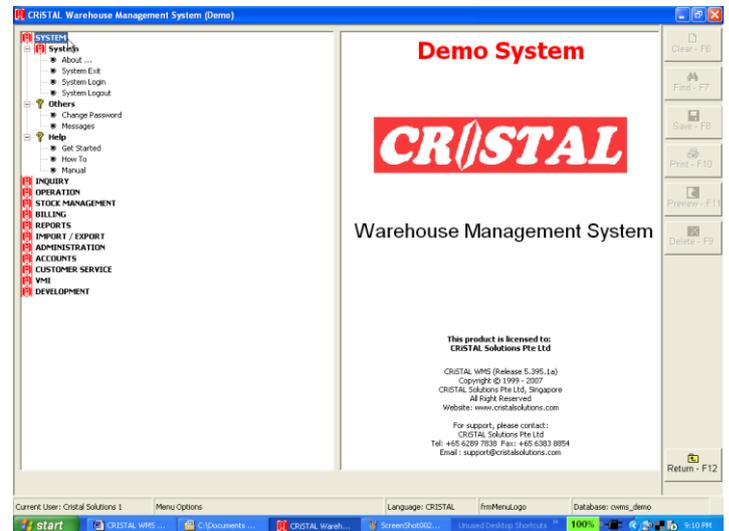
The term “click” used in the manual is to be interpreted as pointing with the mouse pointer and click the left button. Alternatively, user can use the equivalent function key.

Menu or command button name when greyed are not applicable to the windows they appear with or not authorised to the user.

2. SYSTEM

Under the main System Module, there are sub-module comprises of:

1. System
 - ✓ About
 - ✓ System Exit
 - ✓ System Login
 - ✓ System Logout
2. Others
 - ✓ Change Password
 - ✓ Messages
3. Help
 - ✓ Get Started
 - ✓ How to
 - ✓ Manual



2.1. System

2.1.1. About

About provides information of the authorised licensee, licensor, its contacts and release number. It is important to know which release is the WMS so to facilitate support by Cristal Solutions.

Step:

1. Double click System (main module)
2. Double click System (sub-module)
3. Select About (Function)



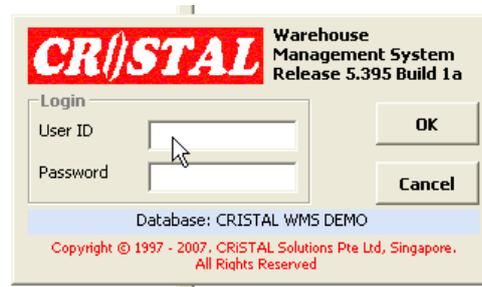
2.1.2. System Exit

System Exit provides a one step log-out from the Window. To log into CRiSTAL WMS, click CRiSTAL WMS icon.

2.1.3. System Login

System Login provides a one step log-out from CRiSTAL WMS but the system prompts for the user ID and password.

The user must input a valid user ID and password when login in the form as shown:

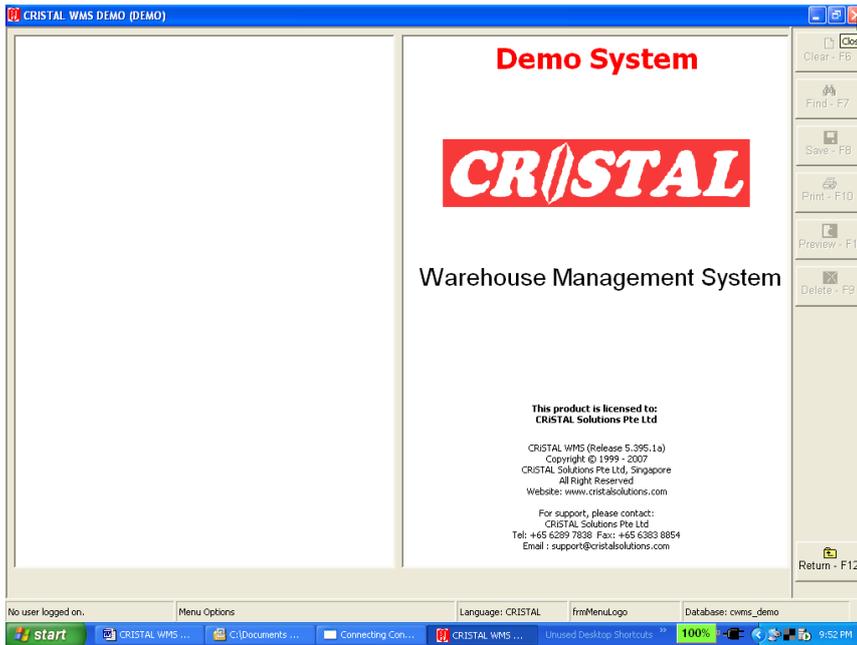


Click on the OK button after entering the input. Each character of Password entry will be reflected as asterisk ‘*’.

If the user decided not to proceed with the login, he is then to Cancel the login. The system returns to the Window.

2.1.4. System Logout

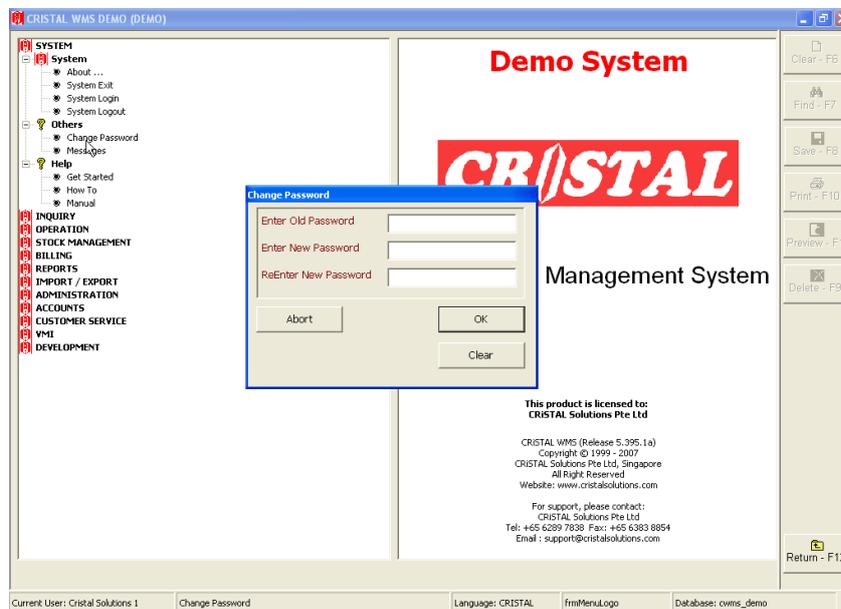
System Logout provides a quick log out from CRiSTAL WMS but the system does not prompt for user ID and password. To proceed, click the “X” on the extreme right corner to return to Window.



2.2. Others

2.2.1. Change Password

Change Password allow the user to change their password as and when desired. If a user login is the first time or after a password reset by the system administrator, he will be prompted to change his password by the form below



Enter the current password and the new password in the respective field and click OK button. If the user decided not to proceed with the password change, he can

click Abort. If user is not certain about what they have key into the password, Clear to provide quick removal.

2.2.2. Messages

This Messages provide notifies and reminds user of messages whereby operation may have failed or to take note. Typical the message (if any) would appears whenever the user log into CRiSTAL WMS otherwise, user can click Message to retrieve the messages.

STEP:

1. Click Messages under the System sub-module. System displays any available messages.
2. User can Print, Delete All, Delect Select or Remind Me Later. In Remind Me Later, message will appear in the next user log in.

2.3. Help

The Help Sub-module provides users with 1st level and immediate assistance in an event of doubt.

2.3.1. Get started

When double click Get Started, it opens the Window Explorer which display a write-up to assist user to get started. The write up is in PDF format.

2.3.2. How To

When double click How To, it opens the Window Explorer which display a write up on Frequent-Ask-Question on mainly operational queries. The write up is in PDF format.

2.3.3. Manual

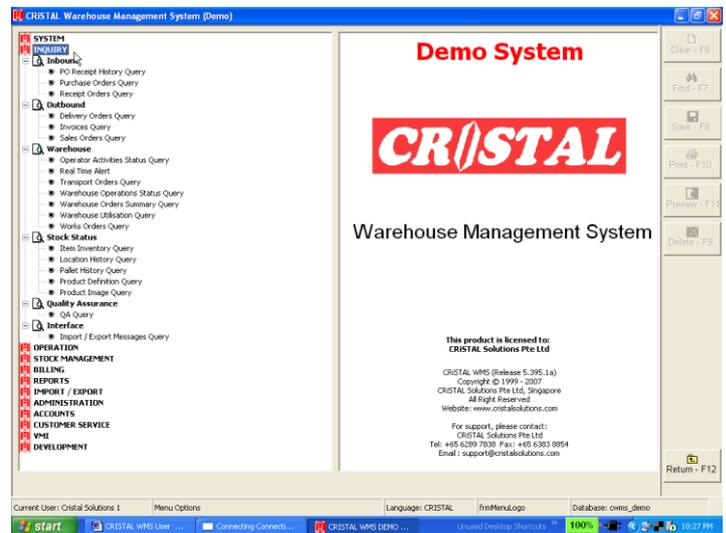
When double click Manual, it opens the Window Explorer which display a write up on User Manual. The write up is in PDF format. It may be expected that the release version of User Manual may not match the same as the actual system release or in some cases, not make available.

3. INQUIRY

Various inquiry functions are provided under the Inquiry menu to facilitate the users to gather and search for information for better management of the warehouse. It does not allow any edit or entry of information into the database.

Under the Inquiry Module, there are sub-module comprises of:

1. Inbound
 - ✓ PO Receipt History Query
 - ✓ Purchase Order Query
 - ✓ Receipt Orders Query
2. Outbound
 - ✓ Delivery Orders Query
 - ✓ Invoice Query
 - ✓ Sales Orders Query
3. Warehouse
 - ✓ Operator Activities Status Query
 - ✓ Real Time Alert
 - ✓ Transport Order Query
 - ✓ Warehouse Operations Status Query
 - ✓ Warehouse Orders Summary Query
 - ✓ Warehouse Utilisation Query
 - ✓ Work Orders Query
4. Stock Status
 - ✓ Item Inventory Query
 - ✓ Location History Query
 - ✓ Pallet History Query
 - ✓ Product Definition Query
 - ✓ Product Image Query
5. Quality Assurance
 - ✓ QA Query
6. Interface
 - ✓ Import / Export Messages



Query

3.1. Inbound

Inbound provides information pertaining to creation of inbound data (or Purchase order) and goods receiving.

The inquiries are allowed at both summary or header and details level. User is required to specify the Client that they are making inquiry on.

For user that is authorised to access to only 1 Client, the Client will be defaulted. The user will not be allowed to select other Clients.

The **Print** and **Preview**, when enabled, allow user to print a copy of the queried data that are displayed.

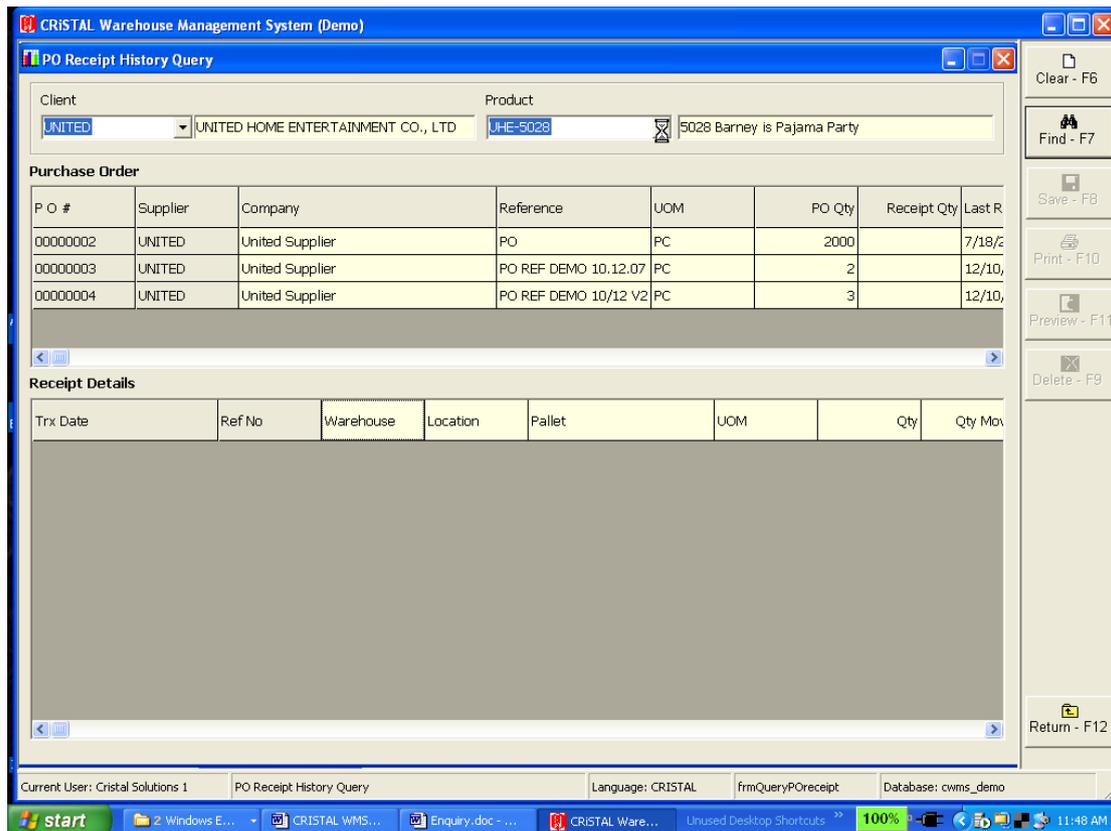
To access Inbound module

STEPS:

1. Double click Inquiry to access Inbound sub module
2. Double click Inbound to access Inbound functions

3.1.1. PO Receipt History Query

PO Receipt History Query provides information of transaction status of all purchase order in the WMS by Product level. Transaction status show includes PO that is available but not released for warehouse, PO that has been released and PO that has been received.

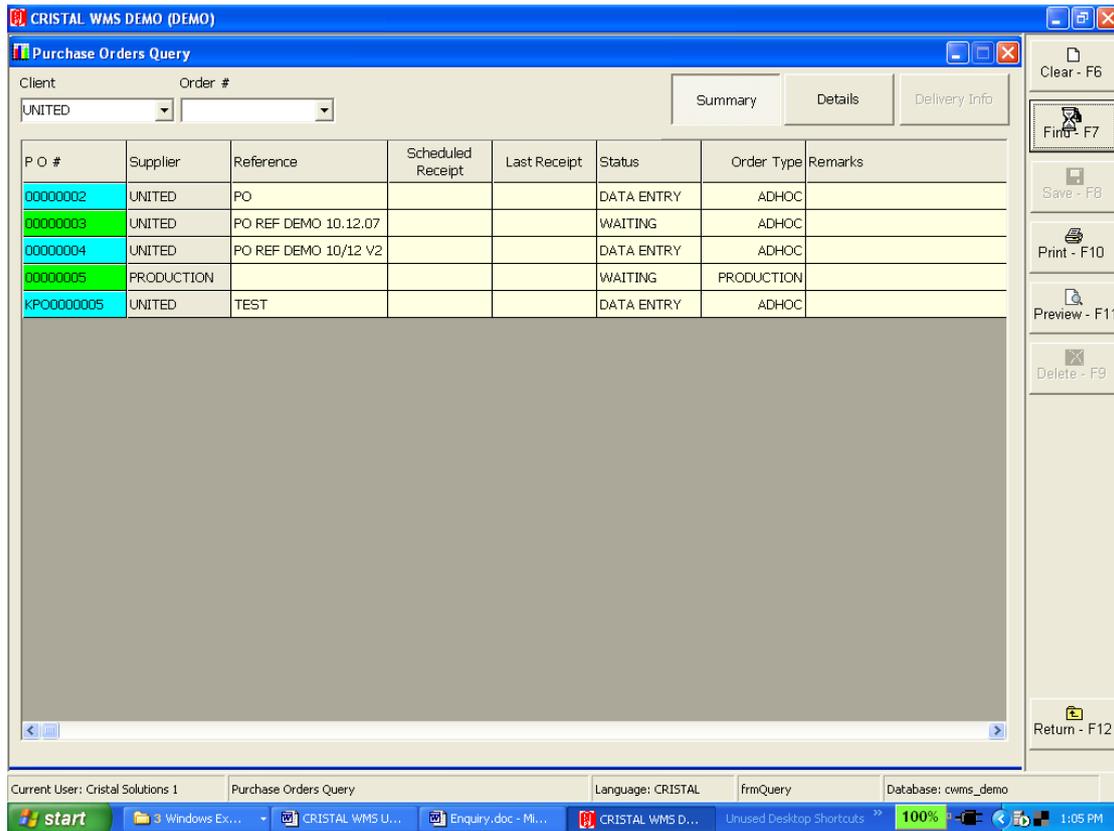


STEPS:

1. Click PO Receipt History Query under the Inbound sub module
2. Select Client and Product, using the stroll down.
3. Click Find – F7 to display the list of all purchase order. To view the Receipt Detail, double click the PO#. If there is not receipt, system will prompt “There is no Receipt against PO”.

3.1.2. Purchase Order Query

Purchase Order Query provides information of transaction status of all purchase order in the WMS by Client level. Transaction status show includes all purchase order for this selected client.

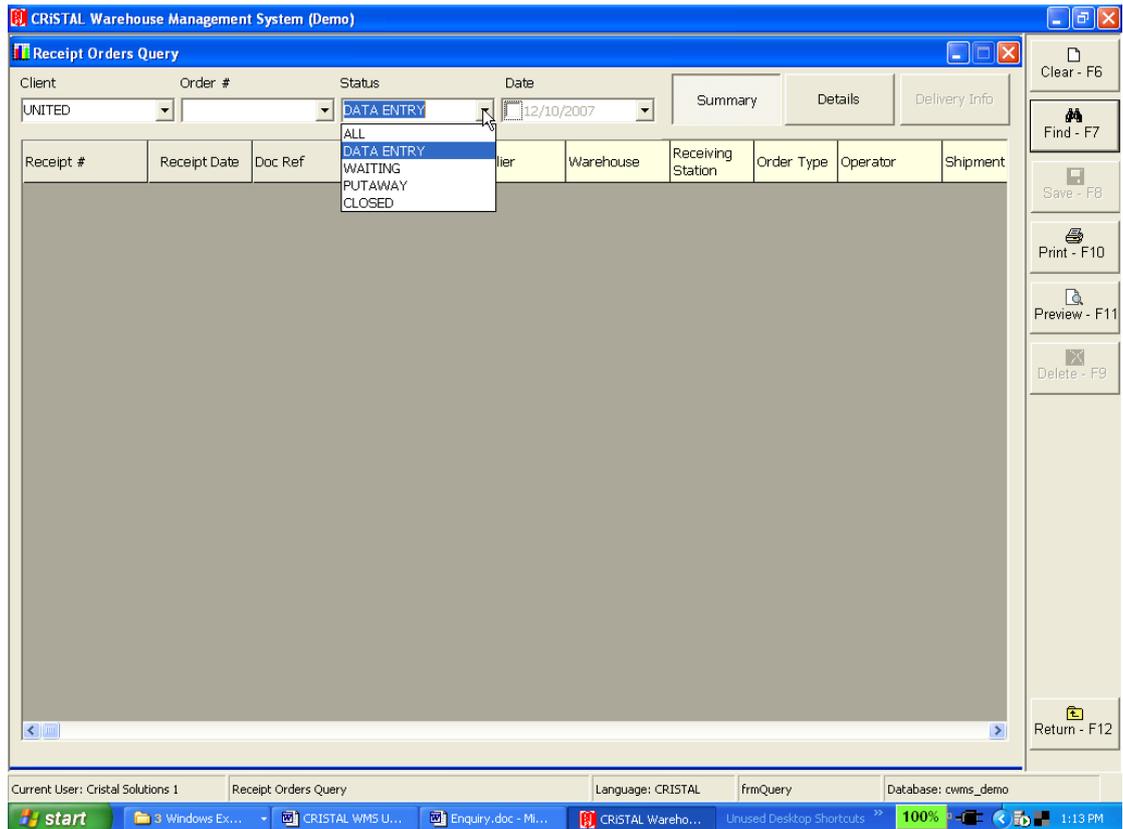


STEPS:

1. Click Purchase Orders Query under the Inbound sub module
2. Select Client and Order # (optional), click Find-F7. If user select Order #, only such order shall be displayed, otherwise all purchase order under this Client shall be displayed.
3. Double click the PO # line to view the product details under this purchase order.

3.1.3. Receipt Order Query

Receipt Order Query provides quick information of all purchase order in the WMS by status level.



STEPS:

1. Click Receipt Orders Query under the Inbound sub module
2. Select Client, Order # (optional) and Status that the user wish to search by, click Find-F7. If user select Order #, only such order shall be displayed, otherwise all purchase order under this Client shall be displayed based on the Status selected.
3. Double click the PO # line to view the product details under this purchase order.

3.2. Outbound

Under Outbound, the system provides query pertaining to all outbound matter including Delivery Order, Invoicing, Sales Order Query

3.2.1. Delivery Order Query

Delivery Order Query provides information of the delivery status based on Delivery order. Delivery order number is created after picking is done and Delivery Order is confirmed

CRISTAL Warehouse Management System (Demo)

Delivery Orders Query

Client: UNITED Order #: []

Summary Details Delivery Info

Delivery Note	Customer	Name	Delivery Date	Despatch Date	Delivered Date	Delivered Time
00000003	UNLIMITED	Unlimited Pte Ltd	2/9/2007	2/9/2007	2/9/2007	14:04:39
00000004	UNITED	UNITED HOME ENTERTAINMENT CO., LTD	2/12/2007	11/8/2007		
00000005	UNLIMITED	Unlimited Pte Ltd	2/9/2007	11/8/2007		
00000006	UNITED	UNITED HOME ENTERTAINMENT CO., LTD	2/13/2007	6/19/2007		
00000007	UNLIMITED	Unlimited Pte Ltd	2/10/2007	4/10/2007	4/10/2007	14:53:07
00000008	UNLIMITED	Unlimited Pte Ltd	2/11/2007	6/19/2007		
00000009	UNLIMITED	Unlimited Pte Ltd	1/25/2007	6/19/2007		
00000010	UNITED	UNITED HOME ENTERTAINMENT CO., LTD	4/11/2007	7/3/2007		
00000011	UNITED	UNITED HOME ENTERTAINMENT CO., LTD	4/17/2007	7/3/2007		
00000012	UNLIMITED	Unlimited Pte Ltd	3/27/2007	7/3/2007		
00000013	UNLIMITED	Unlimited Pte Ltd	4/11/2007	7/3/2007		
00000014	UNLIMITED	Unlimited Pte Ltd	2/13/2007	7/3/2007		
00000015	UNLIMITED	Unlimited Pte Ltd	2/13/2007	7/3/2007		
00000016	UNITED	UNITED HOME ENTERTAINMENT CO., LTD	2/11/2007	7/3/2007		
00000017	UNLIMITED	Unlimited Pte Ltd	1/18/2007	7/10/2007		
00000018	UNITED	UNITED HOME ENTERTAINMENT CO., LTD	3/27/2007	7/10/2007		
00000019	UNLIMITED	Unlimited Pte Ltd	4/10/2007	7/10/2007		
00000020	UNLIMITED	Unlimited Pte Ltd	5/6/2007	7/10/2007		
00000021	UNITED	UNITED HOME ENTERTAINMENT CO., LTD	5/6/2007	5/6/2007	7/3/2007	00:00:01
00000022	UNLIMITED	Unlimited Pte Ltd	5/6/2007	7/10/2007		

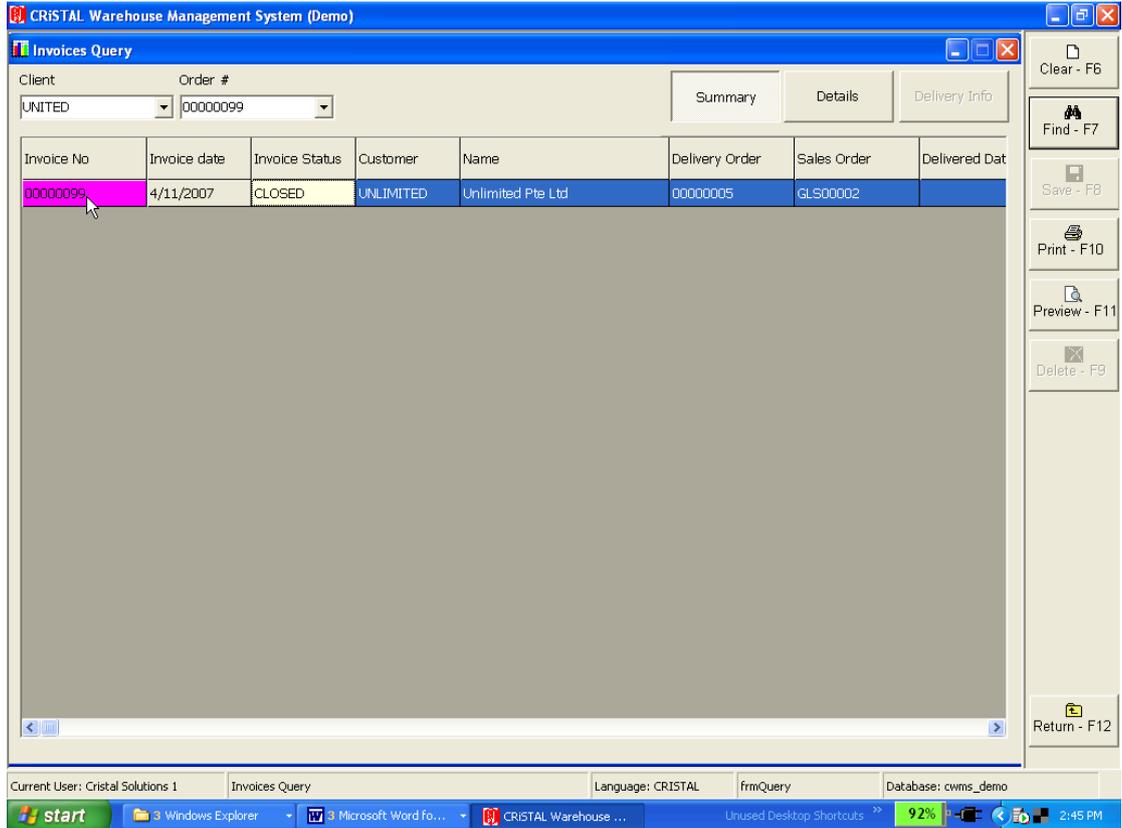
Current User: Cristal Solutions 1 Delivery Orders Query Language: CRISTAL frmQuery Database: cwms_demo

STEPS:

1. Click Delivery Order Query under the Outbound sub module
3. Select Client and Order # (optional). Order # refers to delivery order number. Click Find-F7. If user leaves Order # as blank, all delivery order shall be displayed.

3.2.2. Invoice Query

Invoice Query provides information of the invoice on Client level.

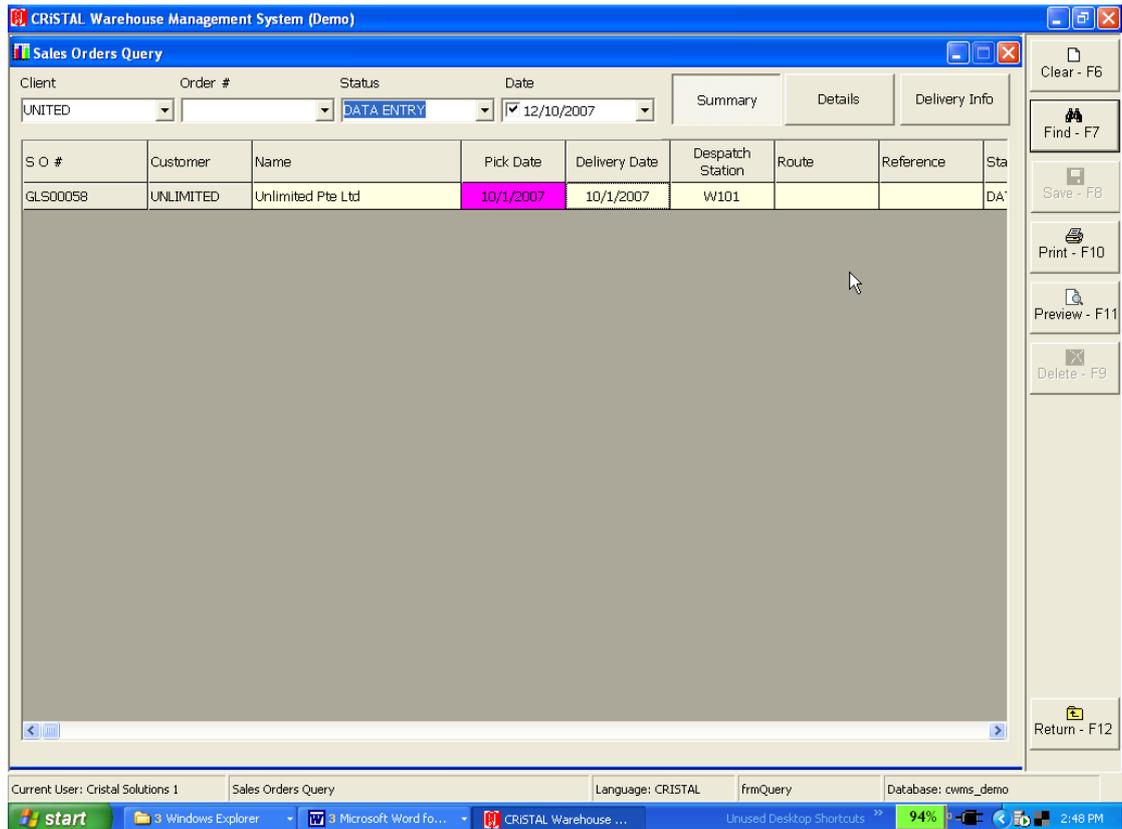


STEPS:

1. Click Invoice Query under the Outbound sub module
4. Select Client and Order # (optional). Order # refers to Invoice Number. Click Find-F7. If user leaves Order # as blank, all invoice number shall be displayed.

3.2.3. Sales Order Query

Sales Order Query provides information of the sales order on Client level.



STEPS:

1. Click Sales Orders Query under the Outbound sub module
2. Select Client and Order # (optional). User may select specific status to facilitate easy search. Date option is provided. Click “tick” to specify the date required, otherwise system shall list all items before the date specify.
3. Click Find–F7 to list the requested search
4. Double click the SO# to list the details.

3.3. Warehouse

Inquiry under warehouse sub module includes operational enquiry such as operator activities, warehouse operation status, warehouse utilisation, work order status etc

3.3.1. Operator Activities Status Query

Operator Activities Status Query provides every minute update of the operator(s) activities in the form of Bar Chart or table.

Operator Activities Status Query

Warehouse: WHSE1 Start Date: 12/10/2007 End Date: 12/10/2007 Auto Refresh Approx. Every Minute: 2007-12-10 15:00:44

Bar Chart Refresh

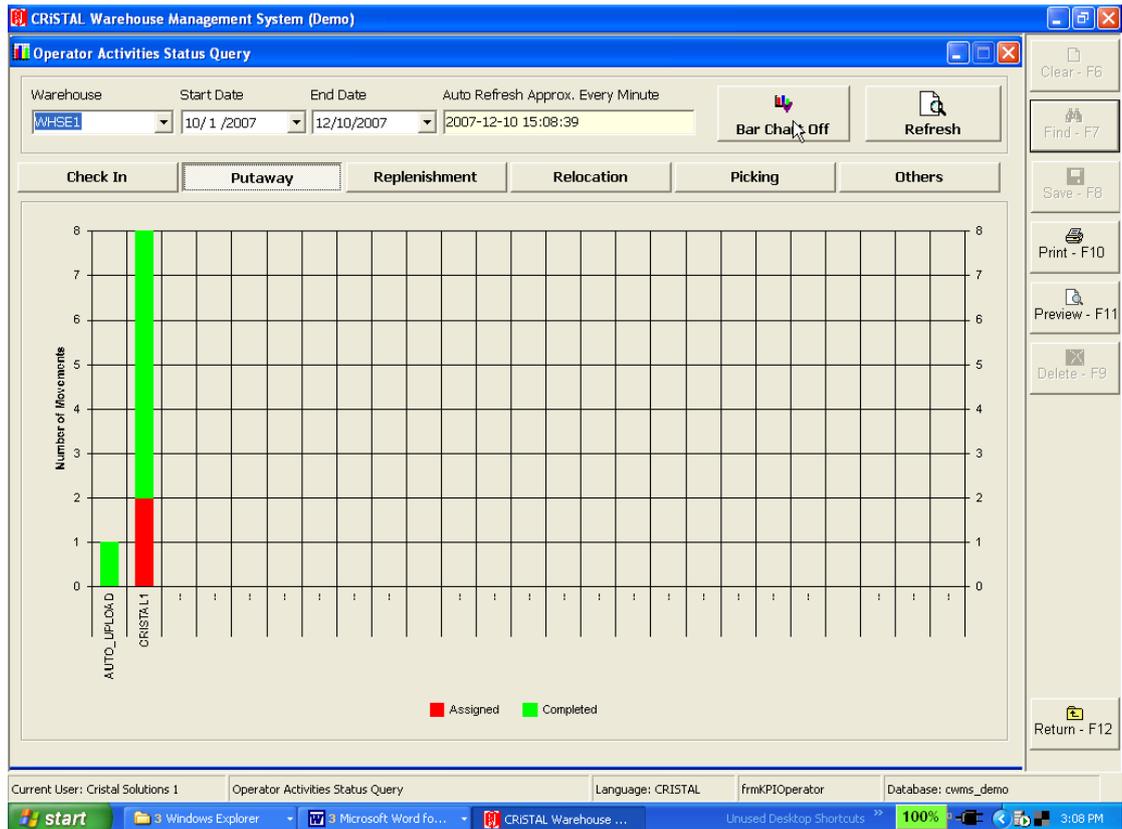
Check In Putaway Replenishment Relocation Picking Others

Operator	Movement	Assigned	Completed	TOTAL
CRISTAL1	Picking	0	3	3

Current User: Cristal Solutions 1 Operator Activities Status Query Language: CRISTAL frmKPIOperator Database: cwms_demo

STEPS:

1. Click Operator Activities Status Query under the Warehouse sub module. The system shall display the today's status page.
2. Select Warehouse, Start Date and End Date. Click Refresh. The system displays the operators activities and the various warehouse operation in the table.
3. Click Bar Chart, the system display the activities of the various operators per the activities specified.



3.3.2. Real Time Alert

The primary objective of Real Time Alert is to monitor the database for new receipt and sales orders in an operation where the receipt ASN and sales orders are being updated via EDI.

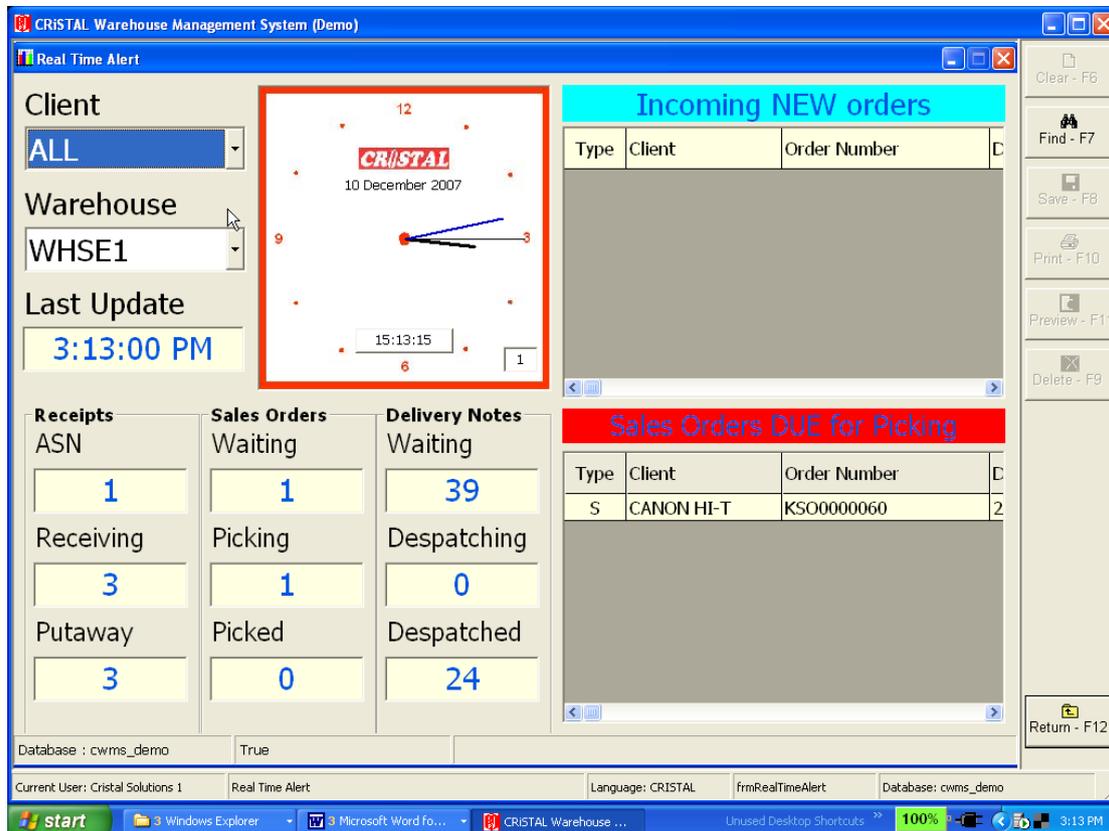
In addition, the function can be configured to send an email to a user to alert him / her of incoming orders. (Build 5.394.33 and later)

In addition, it assist the warehouse operation to monitor on a real time basis sales orders that are due for picking and trigger supervisors for required actions by playing an audio sound.

The function provides information on the number of orders that is awaiting further actions:

1. Receipts
 - a. Receipt ASN received
 - b. Incoming shipment that is currently in Receiving
 - c. Receipt that is checked in pending Putaway
2. Sales Orders
 - a. Waiting for picking
 - b. In the Picking process
 - c. Picked waiting for creation delivery order

3. Delivery Notes
 - a. Waiting for loading
 - b. Loaded waiting for despatch - Despatching
 - c. Despatched waiting for confirmation



The analogue clock show the current time based on the workstation clock setting. The date shown in the clock is today date and at the lower right corner is the time interval in minutes that the system refreshes the screen display.

The New Orders lists new receipt ASN and sales orders that have been created in the 30 minutes (default – user configurable).

The Sales Orders DUE are sales orders in WAITING that is due to be picked, taking into consideration the advance picks that the operation practise. (Default 1 day in advance – user configurable)

STEPS:

1. Click Real Time Alert under the Warehouse sub module. The system shall display all orders that are due to be performed as of ‘todate’.
2. Select Client (optional) and Warehouse (optional), otherwise, system is defaulted to All Client and pre-selected Warehouse.

- Click the required overdue activities and the right column shall display the header.

Receipts		Sales Orders		Delivery Notes	
ASN	1	Waiting	1	Waiting	39
Receiving	3	Picking	1	Despatching	0
Putaway	3	Picked	0	Despatched	24

Receipts - ASN			
Type	Client	Order Number	C
R	UNITED	GLO00027	7

Click the header and an inquiry screen shall pop out to display the detail of such due order

Receipts - ASN			
Type	Client	Order Number	C
R	UNITED	GLO00027	7

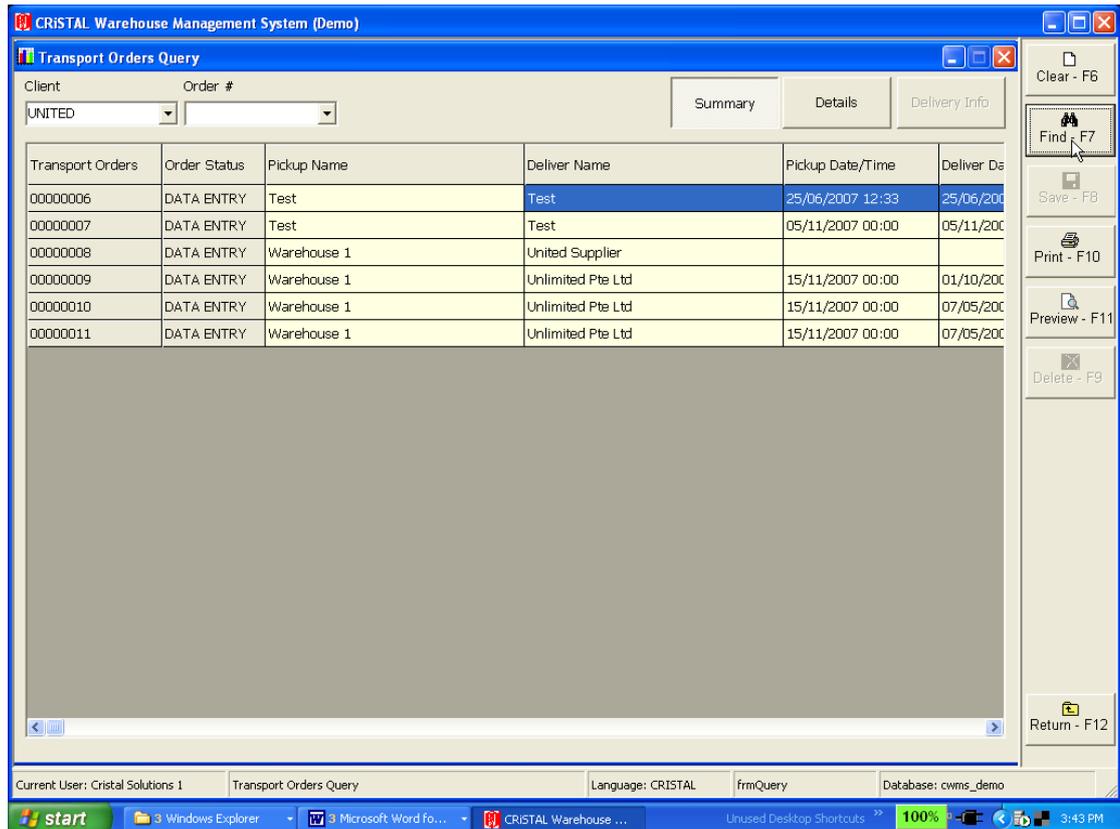
Client	Order #	Status	Date	Summary	Details
UNITED	GLO00027	WAITING	2012-07-10		

Receipt #	Receipt Date	Doc Ref	Status	Supplier	Warehouse	Picking Status	Order Type	Operator	Shipment
GLO00027	2012-07-10	ASN	ASN ENTRY		WH005	IN001	MANUAL		

NOTE: Avoid keeping the function running in the background as it is resource intensive due to the requirement to constantly monitor change to the database.

3.3.3. Transport Orders Query

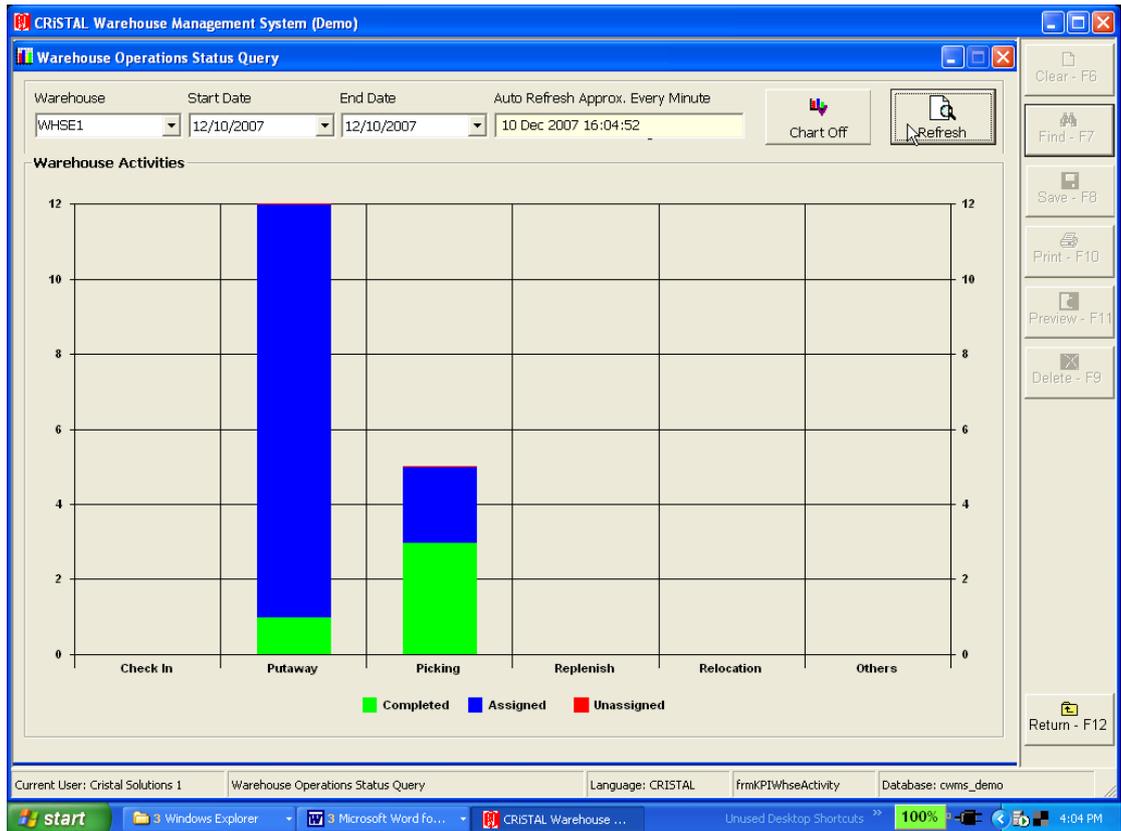
Transport Order Query provides the details on transported goods and transporter information

**STEPS:**

1. Click Transport Orders Query under the Warehouse sub module.
2. Select Client and Order # (optional) and click Find-7, otherwise, system shall display all order.
3. Double click the Transport orders line and the system display the details automatically.

3.3.4. Warehouse Operations Status Query

Warehouse Operations Status Query provides the status on the various warehouse operations namely Check In, Putaway, Picking, Replenishment, relocation and others based on the warehouse and the date range determined by the user.



STEPS:

1. Click Warehouse Operations Status Query under the Warehouse sub module. The system shall display current operational status based on the defaulted warehouse.
2. Select Warehouse, Start Date and End Date of the required parameter. Click Refresh to load the new display. The screen auto refreshes every one minute.
3. Click Chart Off to view the operational status in table form.

Warehouse Tasks Summary (Specific)

Warehouse Activities	Unassigned	Assigned	Completed	TOTAL
DESPATCH	0	0	0	0
PICKING	0	2	3	5
PUT AWAY	0	11	1	12

Purchase Orders (All Whses)

Data Entry	3
Waiting	2
Receiving	0
Closed	0
TOTAL	5

Work Orders Summary (Specific)

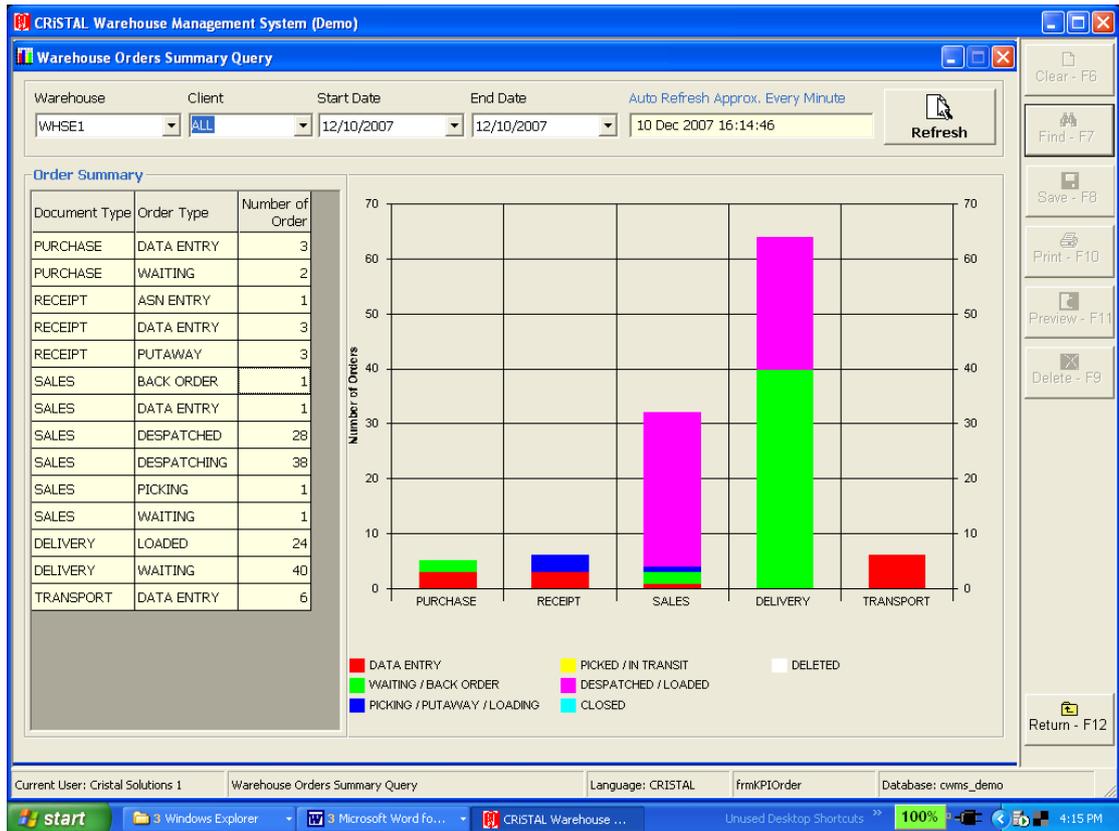
	Assigned	In Progress	Closed	TOTAL
Putaway	2	1	0	3
Picking	1	0	3	4
Replenishment	0	0	0	0
Relocation	0	0	0	0

Delivery Orders (Specific)

Plts Pending	0
Plts Delivering	65
Plts Delivered	0
DO Delivered	0

3.3.5. Warehouse Orders Summary Query

Warehouse Order Summary Query provides the summary status on the various orders pertaining to the warehouse operations namely Purchase, Receipt, Sales, Delivery and Transport orders. Once again, it is based on the selected warehouse, client and the date range determined by the user.



STEPS:

1. Click Warehouse Order Summary Query under the Warehouse sub module. The system shall display current order status based on the defaulted warehouse.
2. Select Warehouse, Client, Start Date and End Date of the required parameter. Click Refresh to load the new display. The screen auto refreshes every one minute.

3.3.6. Warehouse Utilisation Query

Warehouse Utilisation Query provides the user the overall view of its selected warehouse utilisation by Aisle, Zone, Location and Summary level.

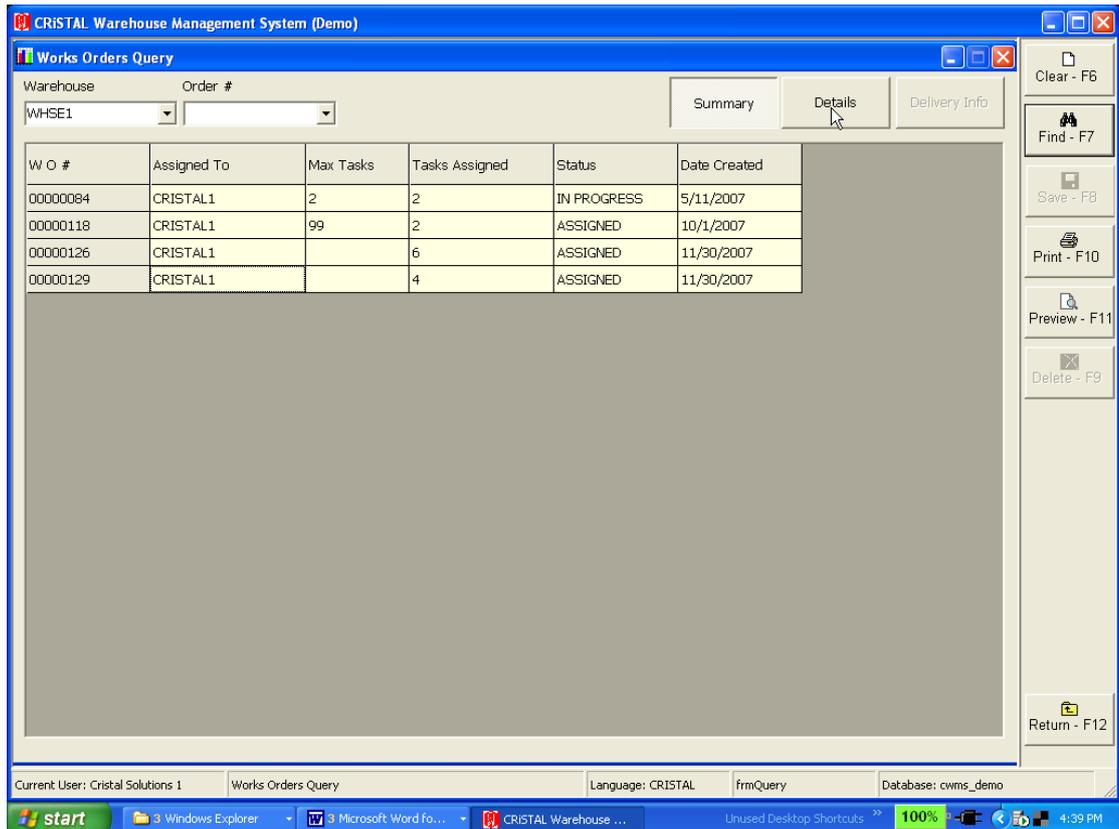


STEPS:

1. Click Warehouse Utilisation Query under the Warehouse sub module. The system shall display current order status based on the defaulted warehouse.
2. Select Warehouse and choice of Aisle, Zone, Location and Summary and click Refresh. The screen auto refreshes every one minute.

3.3.7. Works Order Query

Works Order Query provides the work order status of the warehouse. The work order refers to the Picking and putaway tasks,

**STEPS:**

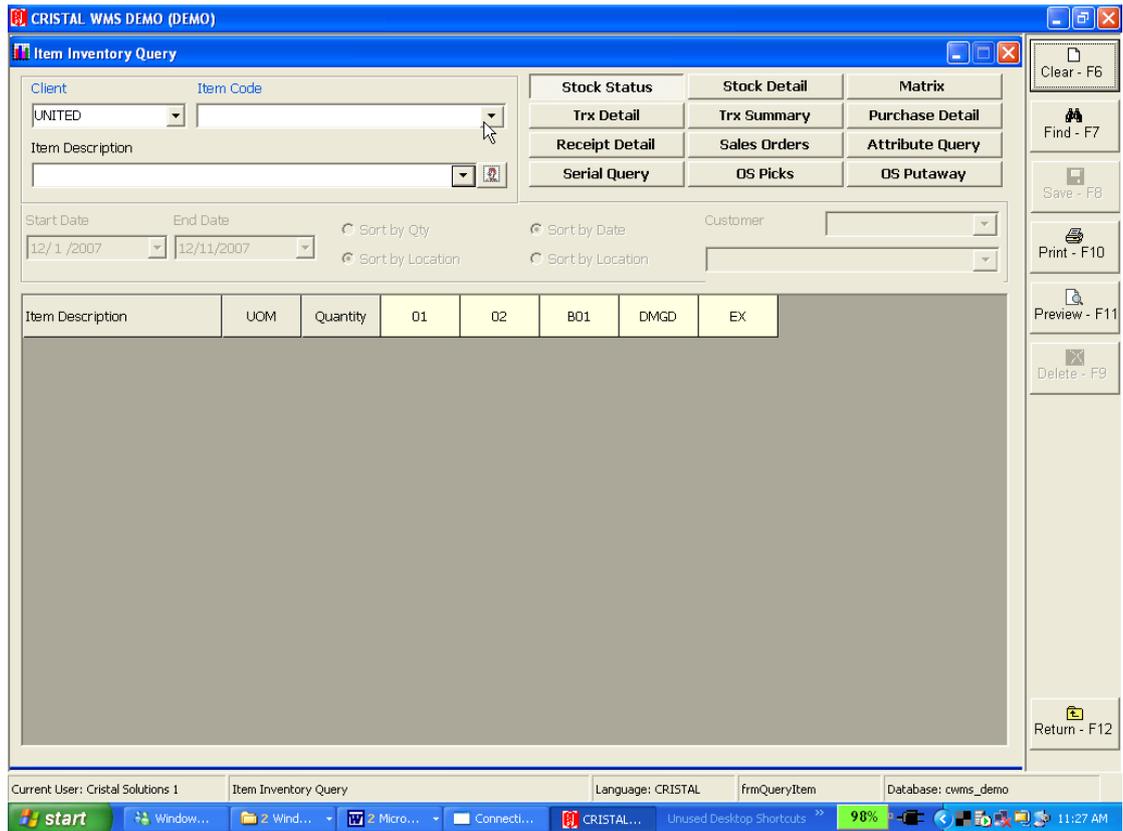
1. Click Works Orders Query under the Warehouse sub module.
2. Select Warehouse and Order # (optional). Click Find-F7.
3. Double Click selected WO# to display the details of the work order.

3.4. Stock Status

Under Stock Status, it provides search features for items inventory, location history, pallets etc

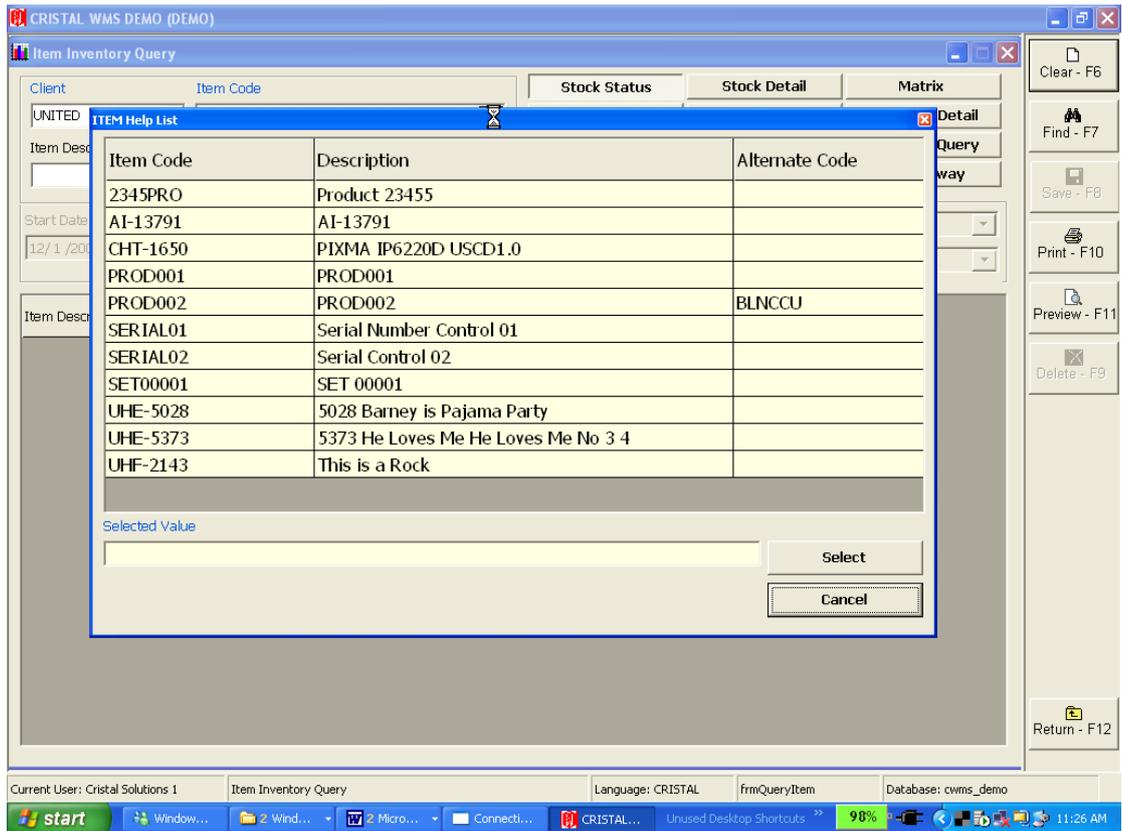
3.4.1. Item Inventory Query

Item Inventory Query provides stock information, details and transaction summary.

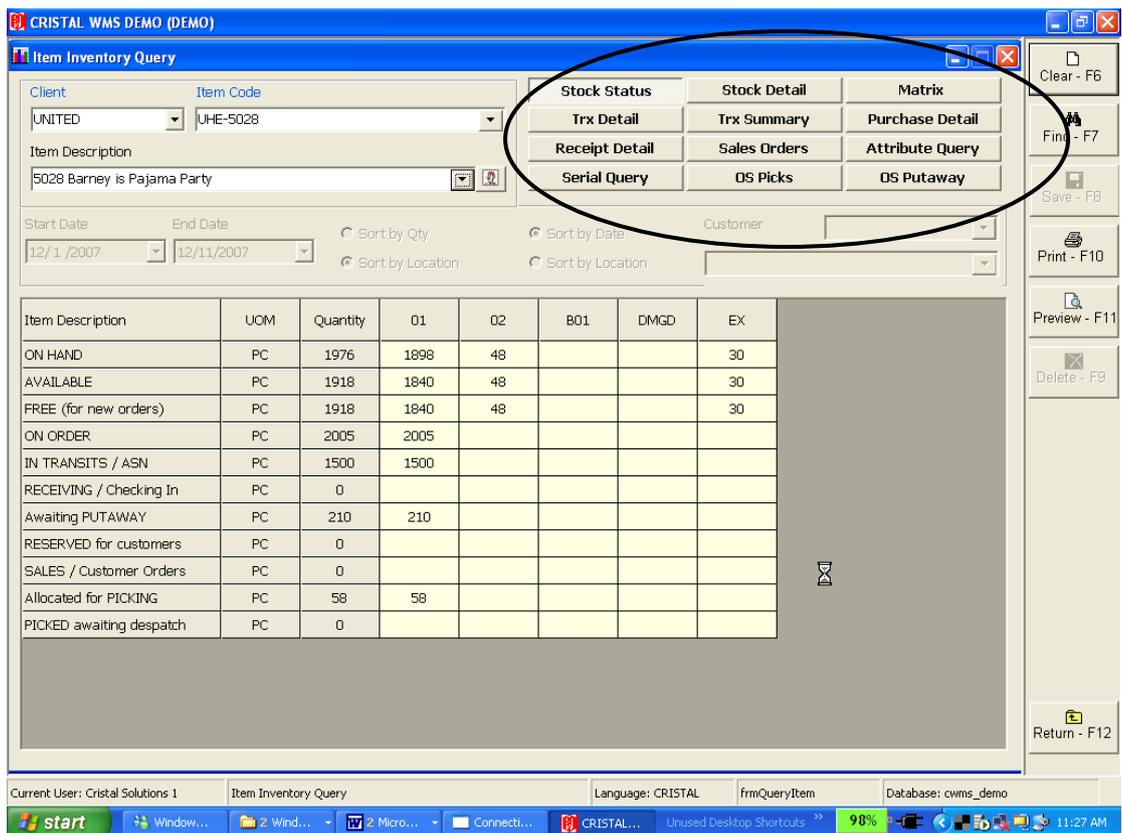


STEPS:

1. Click Item Inventory Query under the Stock Status sub module.
2. Select Client and Item Code using the drop down bar. A list of items for the client selected shall be displayed. Click required item and Select.

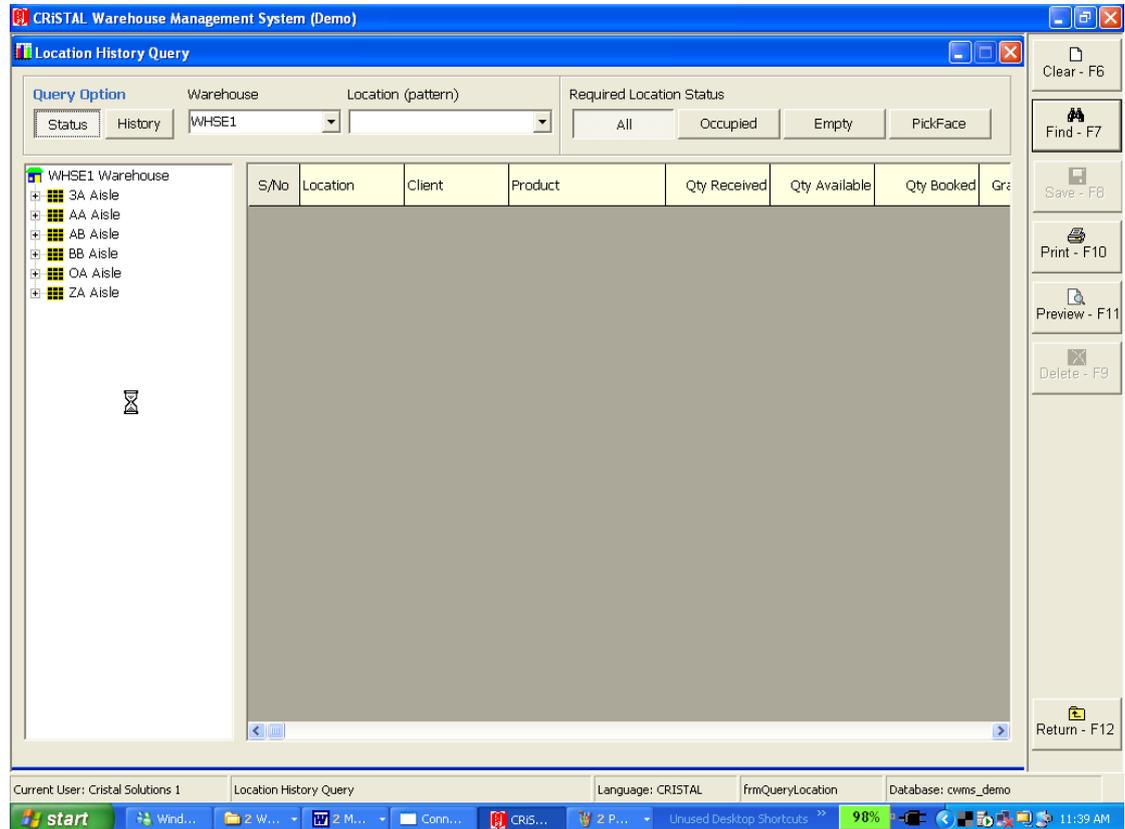


User can continue to use features such as Stock Details, Transaction Details etc make available on the right top of screen

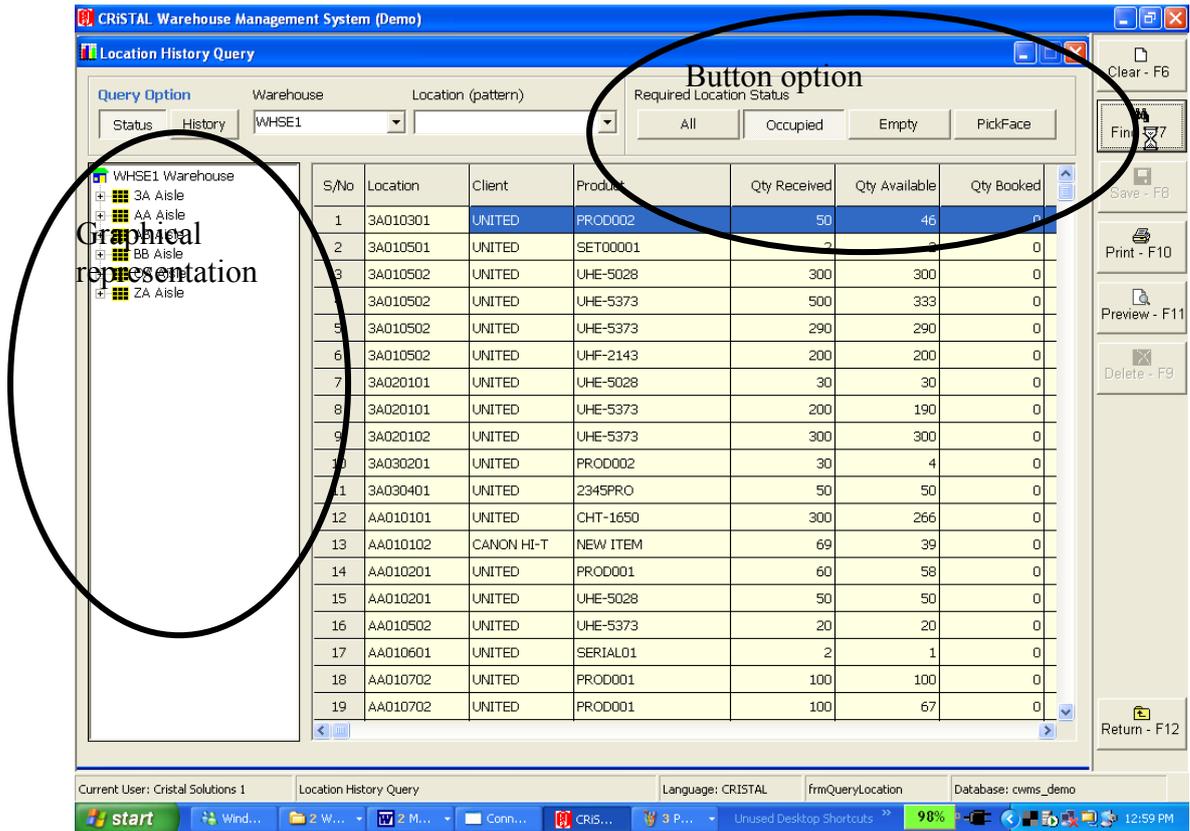


3.4.2. Location History Query

Location History Query provides information of the location status and history transaction of the specified storage location. For search by Status, user can use the main search category such as All, Occupied, Empty and PickFace options whereas search by History, the system provides the Start and End Date so that user can specify the period of history to be searched.



Broadly speaking, under the Status search, the screen is divided into 2 search method, namely the graphical representation on the left column and buttons on the top right of the screen. The graphical search method allow user to click and zoom down to the specific location and display its content whereas the button method allows user to view the summary of the general category.



STEPS:

1. Click Location History Query under the Stock Status sub module.
2. Select either the Status or History depending what the user wish to search by

If search for location Status using Button option

3. Click Status, select Warehouse and choice of category of status (i.e All, Occupied, Empty or Pickface option), click Find-F-7

If search for location Status using Graphical representation,

3. Click choice of location on the left and the details of the storage shall be display on the right

Location History Query

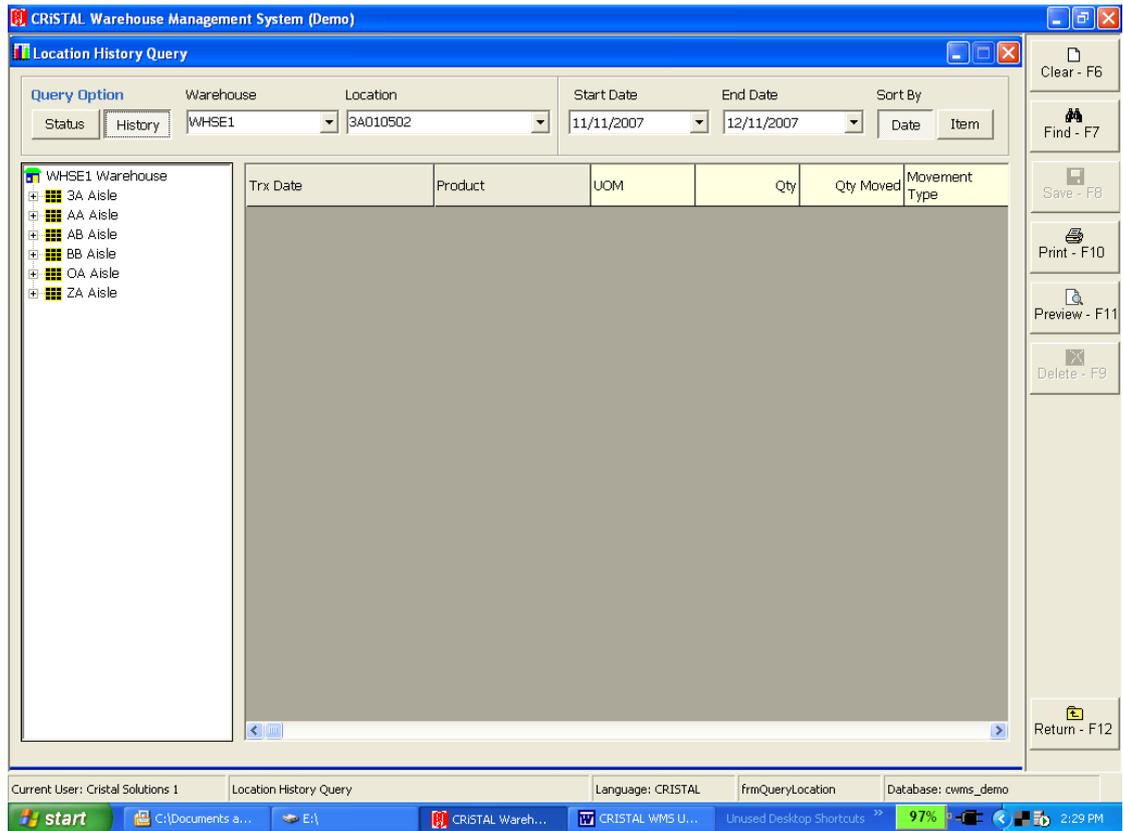
Query Option: Warehouse: WHSE1, Location (pattern):

Required Location Status: All, Occupied, Empty, PickFace

S/No	Location	Client	Product	Qty Received	Qty Available	Qty Booked
1	3A010301	UNITED	PROD002	50	46	0
2	3A010501	UNITED	SET00001	2	2	0
3	3A010502	UNITED	UHE-5028	300	300	0
4	3A010502	UNITED	UHE-5373	500	333	0
5	3A010502	UNITED	UHE-5373	290	290	0
6	3A010502	UNITED	UHF-2143	200	200	0
7	3A020101	UNITED	UHE-5028	30	30	0
8	3A020101	UNITED	UHE-5373	200	190	0
9	3A020102	UNITED	UHE-5373	300	300	0
10	3A030201	UNITED	PROD002	30	4	0
11	3A030401	UNITED	2345PRO	50	50	0
12	AA010101	UNITED	CHT-1650	300	266	0
13	AA010102	CANON HI-T	NEW ITEM	69	39	0
14	AA010201	UNITED	PROD001	60	58	0
15	AA010201	UNITED	UHE-5028	50	50	0
16	AA010502	UNITED	UHE-5373	20	20	0
17	AA010601	UNITED	SERIAL01	2	1	0
18	AA010702	UNITED	PROD001	100	100	0
19	AA010702	UNITED	PROD001	100	67	0

Current User: Cristal Solutions 1 | Location History Query | Language: CRISTAL | frmQueryLocation | Database: cwms_demo

Under the History search, the system provides the Start and End Date for the user to specify the history period.

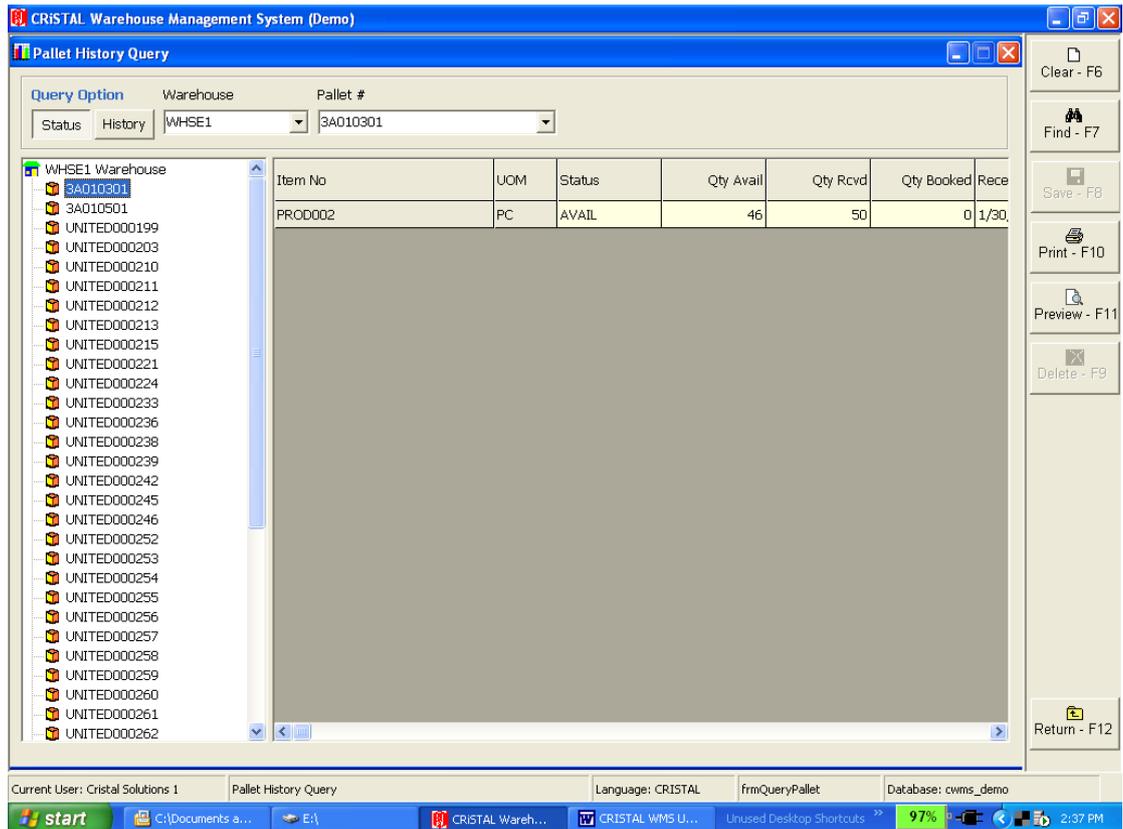


STEPS:

1. Select the Warehouse, location and Start and End Date, click Find F-7. Alternatively, click on the graphical representation.

3.4.3. Pallet History Query

Pallet History Query provides information of the current pallet status and history transaction of the specified pallet. The system displays the items being stored on the pallet specified.



Search by Status

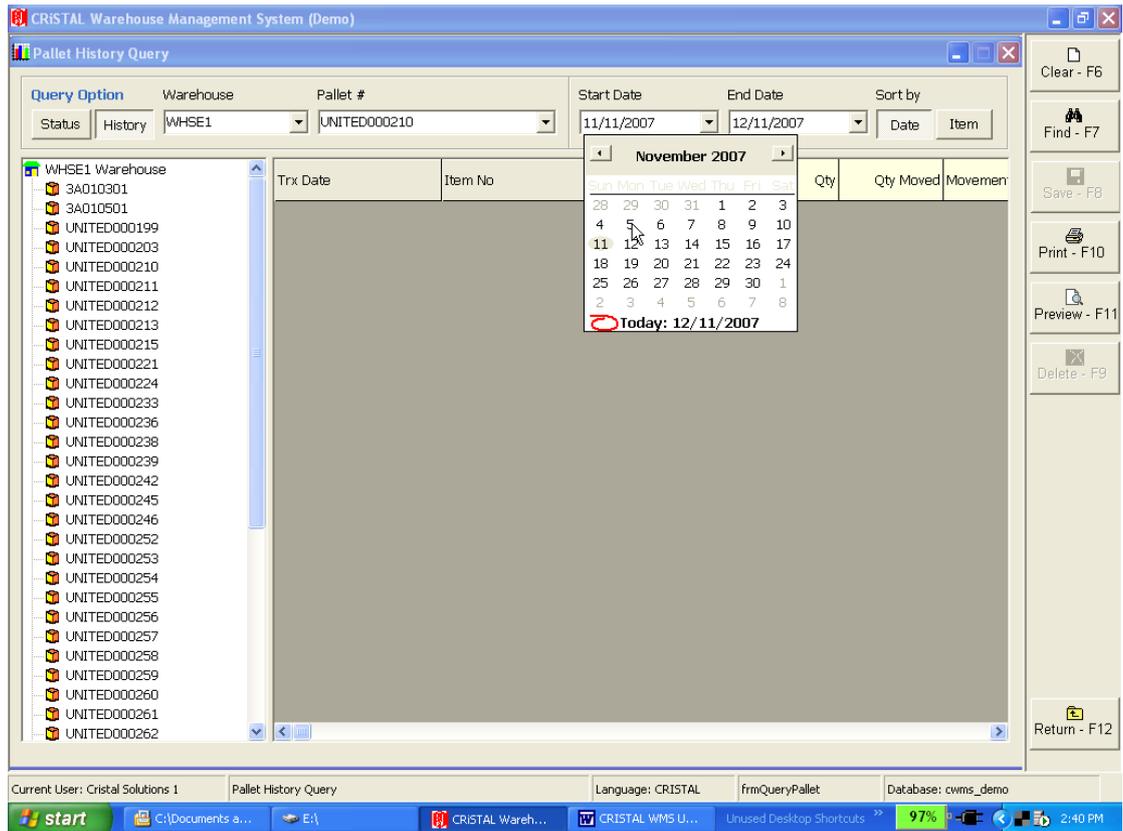
STEPS:

1. Select Status.
2. Select Warehouse and pallet #, click Find F-7. Alternatively, click from the graphical representation.

Search by History

STEPS:

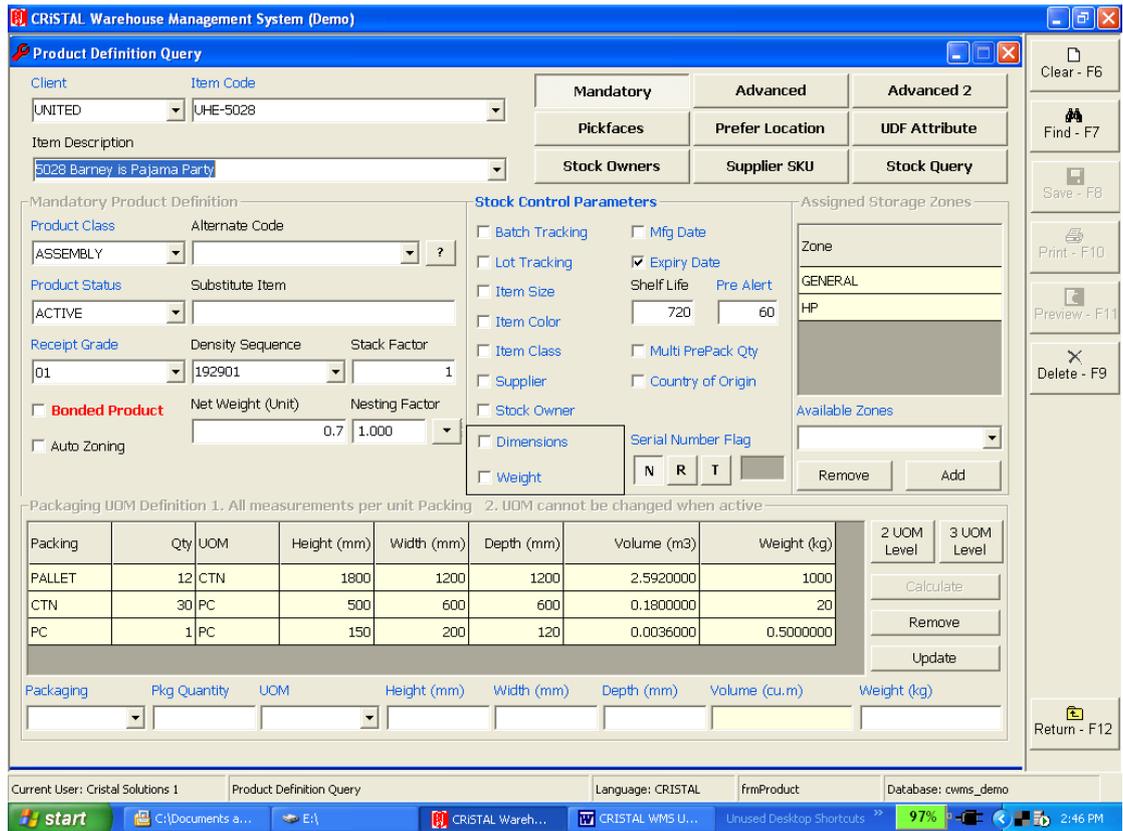
1. Select History
2. Select Warehouse and pallet #. Select the Start Date and End Date, click Find F-7. Alternatively, click from the graphical representation



3.4.4. Product Definition Query

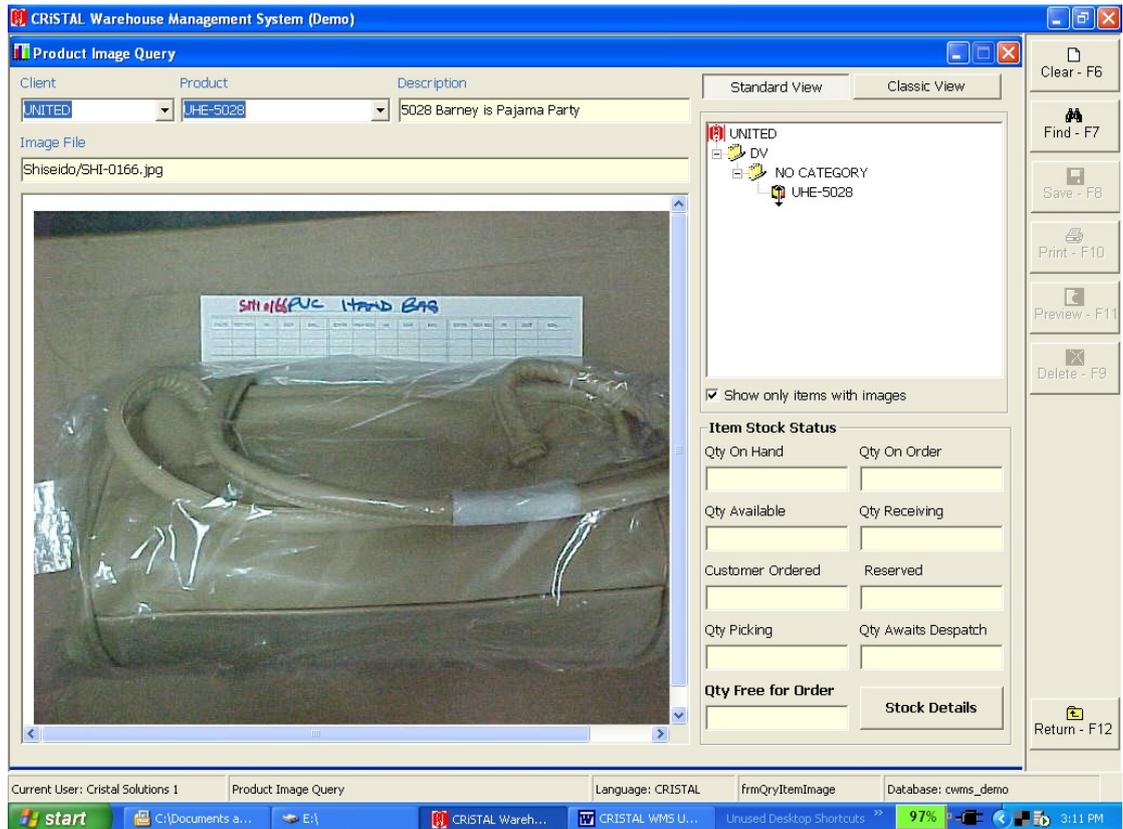
Product Definition Query allow users to view how are the product being configured into the WMS and its set up. It is particularly useful when in an event, the user has any difficulties to manage the product during receiving, putaway and picking logic etc. The system therefore blocks the SAVE as it does not accept edit in the Inquiry Module.

Search is by Product ONLY. User can find useful information concerning the searched products such in its Basic Product Definition; Inventory Management Parameters and Pick Faces, Bar Code Conversion.

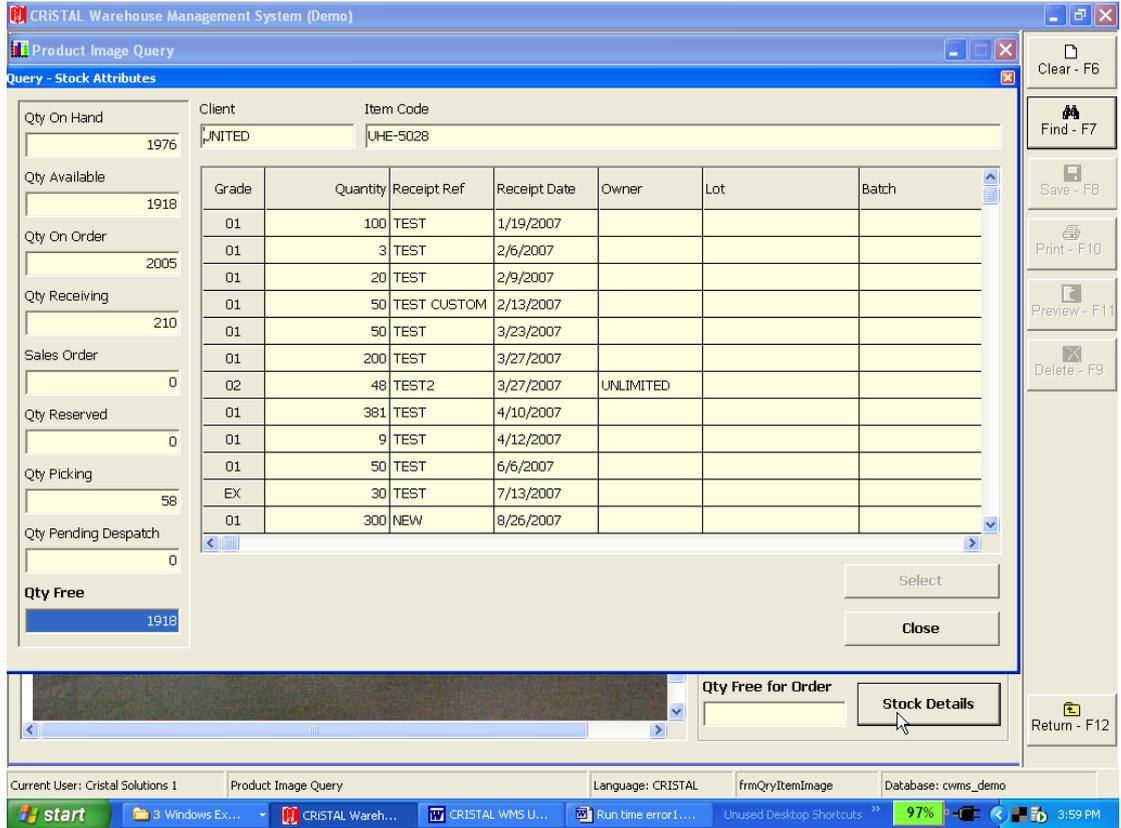


3.4.5. Product Image Query

Product Image Query allows user to view the pictures of the product that they select. It also provides the option of viewing the Stock details of the selected item.

**STEPS:**

1. Click Product Image Query under the Stock Status sub module
2. Select Client, Product and click Find F-7.
3. Alternatively, click Standard View and zoom down to the product, the system automatically display the picture of the product (assuming that they have been updated to the WMS).
4. To view the Stock Details of the product selected, click Stock Details button at the bottom of screen

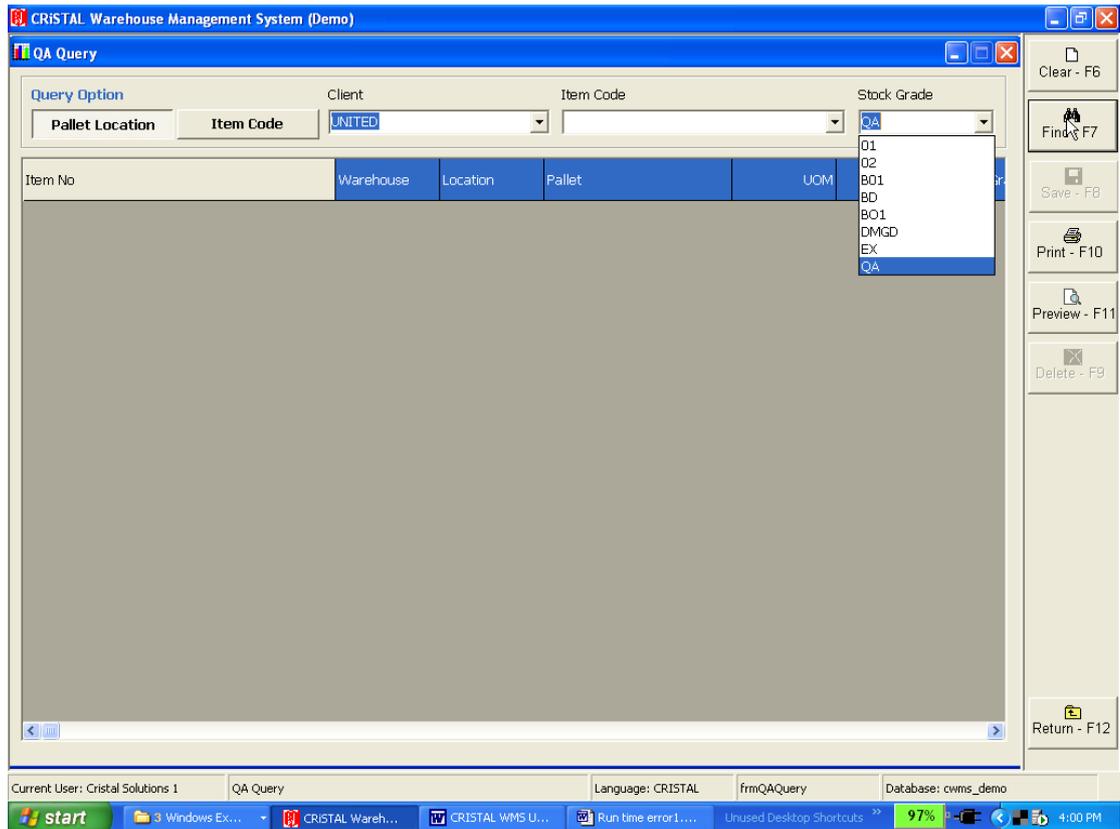


3.5. Quality Assurance

Quality Assurance provides queries to product/items under quality control category

3.5.1. QA Query

QA Query allows user to make query on their QA stock in the system. Users can search by Pallet Location or by Item Code



STEPS:

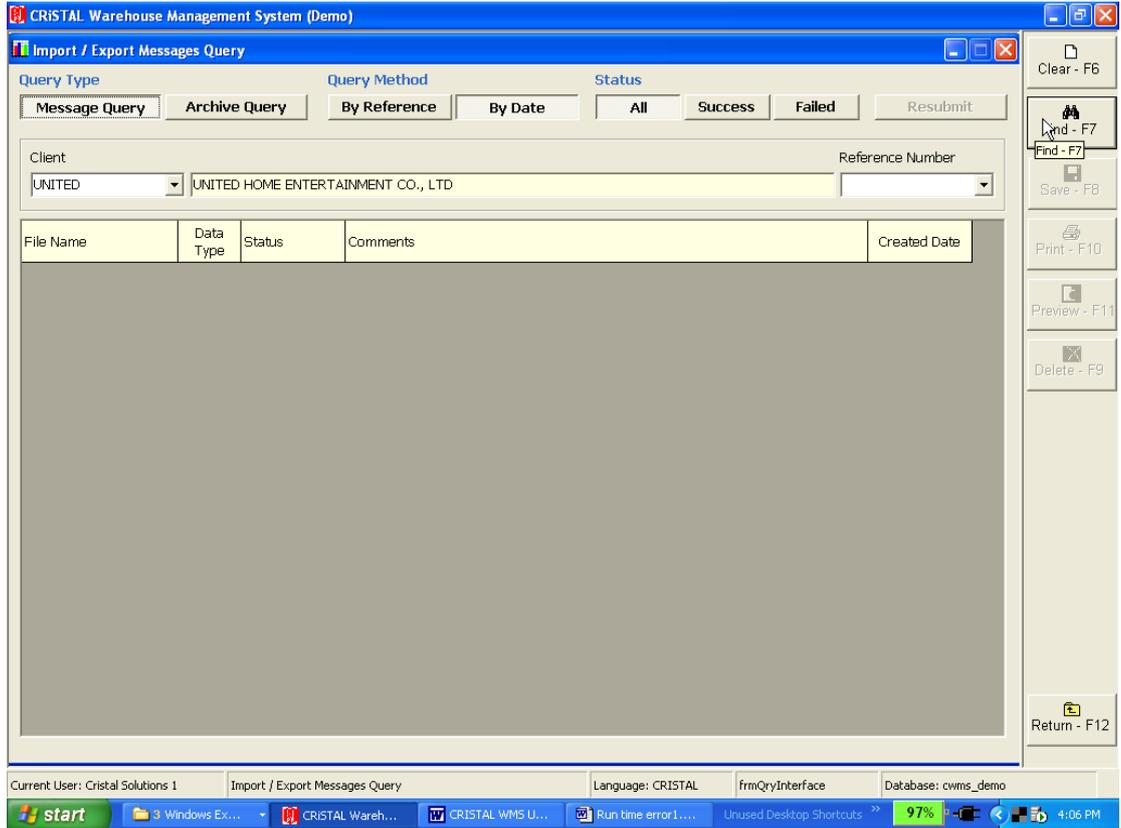
1. Click QA Query under the Quality Assurance sub module
Depending on the search mode, user can select Pallet Location or Item Code.
2. Select Pallet Location or Item code, then Client, Item Code and Stock Grade. Click Find F-7.

3.6. Interface

Interface module produces user to view its Electronic Data Interfact status

3.6.1. Import / Export Message Query

The Import and Export Query provides information pertaining to the EDI Interface status. This is particularly applicable if there is any EDI interface between other system to and from CRiSTAL WMS.



4. OPERATION

Operation modules are the operational function in CRISTAL WMS. It includes data entry, work creation and completion by the various stages of warehousing function such as receiving, putaway, picking, stock taking, packing etc.

Under the Operation Module, there are sub-module comprises of:

1. Inbound

- ✓ Advance Ship Notice Entry
- ✓ Material Returns Advice
- ✓ Purchase Orders Entry
- ✓ Purchase Orders Manage
- ✓ Receipt Check-In
- ✓ Receipt Costing

2. Outbound

- ✓ Delivery Confirmation
- ✓ Delivery Orders
- ✓ Despatch Packing
- ✓ Invoice manage
- ✓ Load Planning
- ✓ Product Invoicing
- ✓ Sales Order Entry
- ✓ Sales Order Manage
- ✓ Truck Loading

3. Warehouse

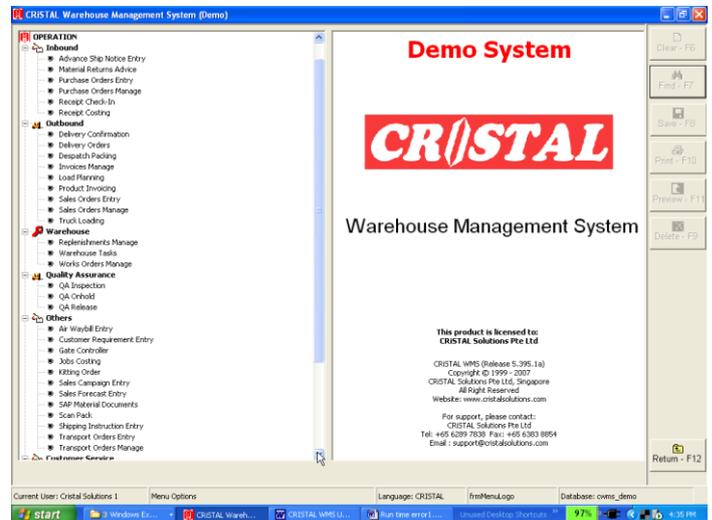
- ✓ Replenishments Manage
- ✓ Warehouse Tasks
- ✓ Works Orders manage

4. Quality Assurance

- ✓ QA Inspection
- ✓ QA Onhold
- ✓ QA Release

5. Others

- ✓ Airwaybill Entry
- ✓ Customer Requirement Entry



- ✓ Gate Controller
- ✓ Jobs Costing
- ✓ Kitting Order
- ✓ Sales Campaign Entry
- ✓ Sales Forecast Document
- ✓ SAP Material Documents
- ✓ Scan Pack
- ✓ Shipping Instruction Entry
- ✓ Transport Orders Entry
- ✓ Transport Orders Manage

4.1. Inbound

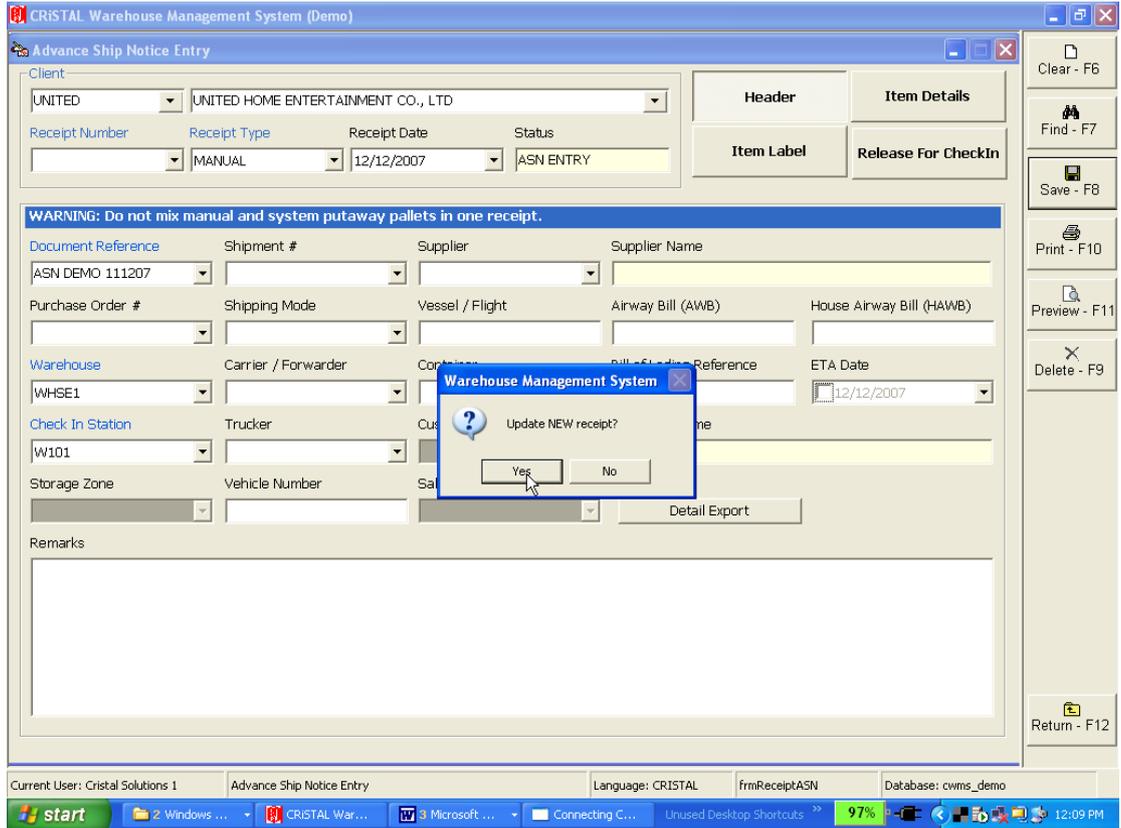
This is an operational function that concerns all incoming of goods ranging from Advance ship notice to receiving of goods.

4.1.1. Advance Ship Notice Entry

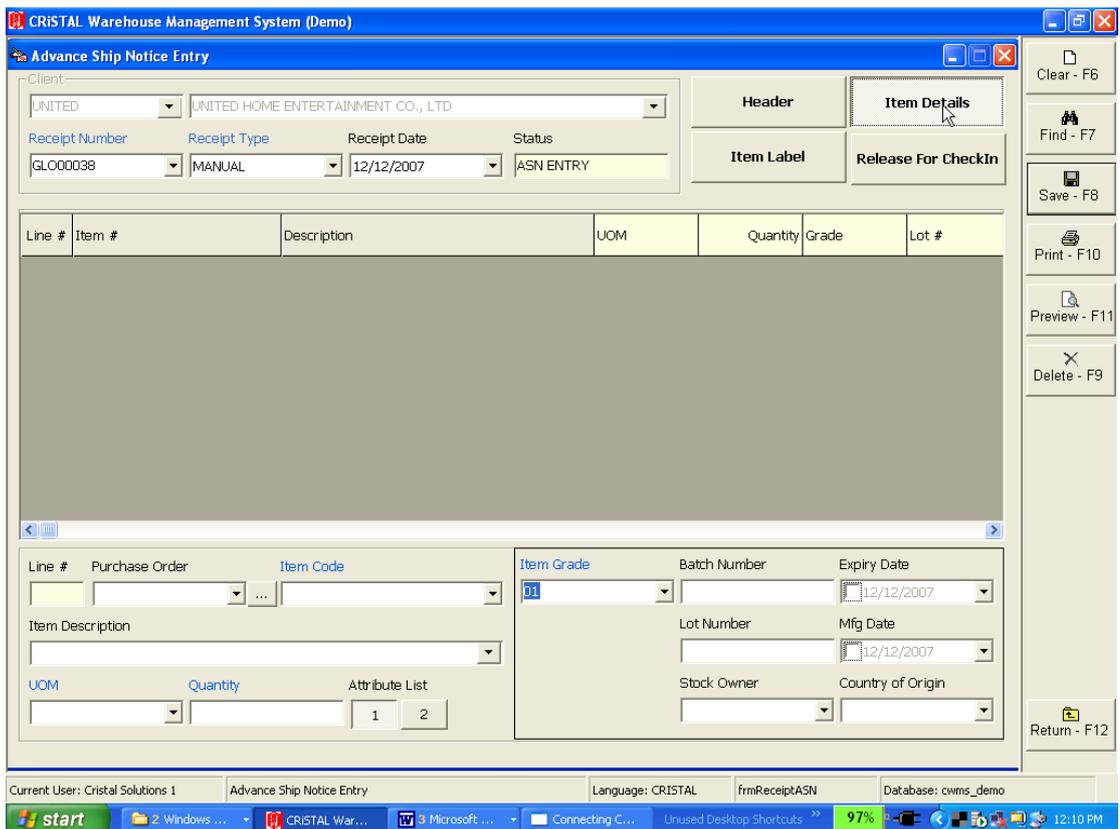
Advance Ship Notice entry allows user to re-enter ASN into the system so to facilitate later receiving.

STEPS:

3. Click Advance Ship Notice Entry under the Inbound sub module.
4. Enter Document Reference and click Save-F8. The system shall automatically generate a Receipt Number unless user specifies a Receipt Number.



5. Fill in the rest of necessary data for this ASN's header and click Item Details to create the item line(s).



6. Enter the Item code or Select the item using the drop down bar. Note: Only items registered in the system can be selected.
7. Enter the Quantity (base on the UOM selected).
8. Click Save – F8 to create into the Item Details
9. Repeat step 4 to 6 to add other items if available
10. User should click Release for CheckIn once the goods arrived so that this will be released as a task for the Receipt Check-In function.

4.1.2. Material Returns Advice

Material Return Advice allow system to capture returns of material and follow up action such as returning to stock.

CRISTAL Warehouse Management System (Demo)

Material Returns Advice

Client: UNITED | MRA Reference: | Date: 12/26/2007 | Status: DATA ENTRY

Collection Authorisation

Customer: | Delivery Note: | Instruction:

Customer Name: | Delivery Code: | Address: | State: | Country: | Postal Code: | Contact: | Telephone: | Close

Clear - F6 | Find - F7 | Save - F8 | Print - F10 | Preview - F11 | Delete - F9 | Return - F12

Current User: Cristal Solutions 1 | Material Returns Advice | Language: CRISTAL | frmMRA | Database: cwms_demo

start | C:\Docume... | E:\Work O... | Run time e... | CRISTAL ... | CRISTAL W... | Unused Desktop Shortcuts | 100% | 3:24 PM

STEPS:

1. Click Material Returns Advice under the Inbound sub-module.
2. Select Customer of which the materials are returned from. The system automatically retrieves the records.
3. Click Save-F8 to create a MRA Reference number for the Header.
4. Click Details to create the item(s) return.

The screenshot displays the 'Material Returns Advice' window in the CRISTAL Warehouse Management System. The window title is 'CRISTAL Warehouse Management System (Demo)'. The main form area is divided into a header section and a table section. The header section contains fields for Client (UNITED), MRA Reference (00000018), Date (12/26/2007), and Status (DATA ENTRY). There are also buttons for 'Header', 'Details', and 'Authorise for Action'. Below the header is a table with columns: Line, Item Code, Description, UOM, Quantity, and Remarks. The table is currently empty. Below the table, there are several input fields: Line #, Item Code, Description, Return Grade (01), UOM, Quantity, Line Instruction, Line Delivery Note, Currency, and Unit Price. On the right side of the window, there is a vertical toolbar with buttons for Clear (F6), Find (F7), Save (F8), Print (F10), Preview (F11), Delete (F9), and Return (F12). At the bottom of the window, there is a status bar showing 'Current User: Cristal Solutions 1', 'Material Returns Advice', 'Language: CRISTAL', 'frmMRA', and 'Database: cwms_demo'. The Windows taskbar at the bottom shows the Start button, several open applications, and the system tray with the time 3:26 PM.

5. Select the Item Code either by entering the code or select from the drop down bar.
6. Enter the Quantity.
7. Click Save-F8 to create the item into the detail.
8. Repeat step 5 to 7 if there are more items.
9. Return to Header and Click Authorise for Action. System prompt MRA Memo released and message shall be forwarded to the authoriser for their information.

Authorise for Action allow system to follow up action

4.1.3. Purchase Order Entry

CRiSTAL WMS is designed as a stand-alone system and therefore has a Purchase Order Entry to facilitate receiving of goods based on the purchases made. However, CRiSTAL WMS also has EDI function to automate data transfer from 3rd party application.

The screenshot displays the 'Purchase Orders Entry' window in the CRISTAL Warehouse Management System. The window title is 'CRISTAL Warehouse Management System (Demo)'. The main form area is divided into several sections:

- Client:** A dropdown menu shows 'UNITED' and a text field contains 'UNITED HOME ENTERTAINMENT CO., LTD'.
- Order Header:** Fields for 'P O Number', 'Order Type' (set to 'ADHOC'), 'PO Date' (12/26/2007), and 'Status' (DATA ENTRY). Buttons for 'Order Header' and 'Order Detail' are present.
- Shipping Instruction:** Fields for 'Shipping Mode', 'Carrier', 'Initiated By', 'Ship From', 'Ship To', and 'Approval Level' (set to 'N').
- Supplier Information:** Fields for 'Supplier Code', 'Supplier Name', 'Address', 'Town / City', 'State', 'Country', 'Postal code', 'Phone', 'Attention of', and 'Fax'.
- Footer:** Fields for 'Entered By', 'Last Updated', and 'Updated By'. A 'Generate' button is located below the 'Generate Purchases From Sales Forecast' section.

The right sidebar contains function keys: Clear - F6, Find - F7, Save - F8, Print - F10, Preview - F11, Delete - F9, and Return - F12. The Windows taskbar at the bottom shows the system time as 3:26 PM and 100% battery level.

STEPS:

1. Click Purchase Order Entry under the Inbound sub-module.
2. Enter or select the Supplier from the list of registered suppliers.
3. Enter the Document Reference (or typically the PO reference) and click Save F-8. The system auto generate a Purchase Order number
4. Enter other information in the header if needed
5. Click Order Detail

6. Enter or select the Item Code from the list of items created in the system.
7. Enter the Quantity (per the UOM specify)
8. Click Save-F8 to create the item into the Order Detail
9. Repeat step 6 to 8 if there are more items.
10. Return to the Order Header

The screenshot displays the 'Purchase Orders Entry' window in the CRISTAL Warehouse Management System. The window title is 'CRISTAL Warehouse Management System (Demo)'. The main form is divided into several sections:

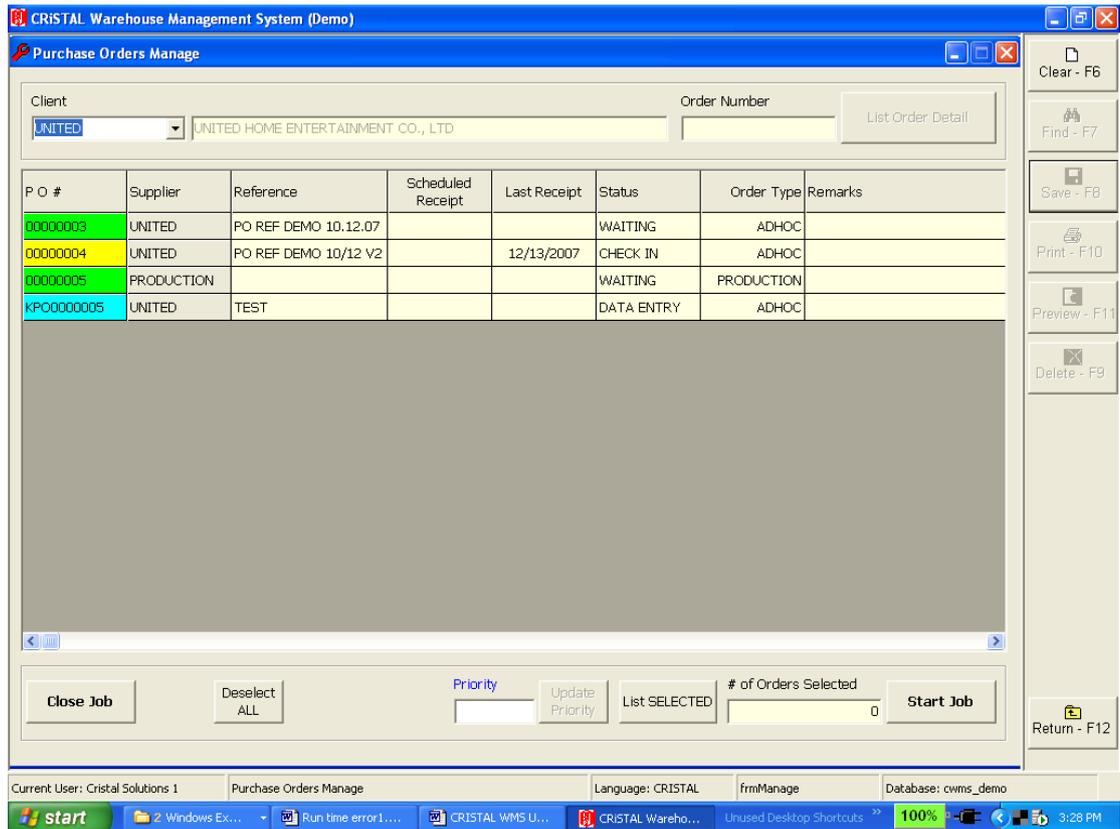
- Client:** UNITED HOME ENTERTAINMENT CO., LTD
- Order Header:** P O Number: KPO0000005, Order Type: ADHOC, PO Date: 1/31/2007, Status: DATA ENTRY
- Shipping Instruction:** Shipping Mode, Carrier, Initiated By, Ship From, Ship To, Approval Level (N), and a 'Release To Warehouse' button.
- Supplier Information:** Supplier Code: UNITED, Supplier Name: United Supplier, Address: Supplier Street, Town / City, State, Country: THAILAND, Postal code, Phone, Attention of, Fax.
- Metadata:** Entered By: CRISTAL1, Last Updated: 31 Jan 2007 16:24, Updated By: CRISTAL1
- Footer:** Current User: Cristal Solutions 1, Purchase Orders Entry, Language: CRISTAL, frmPOEntry, Database: cwms_demo

The Windows taskbar at the bottom shows the Start button, several open applications, and the system tray with a 100% CPU usage indicator and the time 3:28 PM.

- Once PO is completed, click Release to Warehouse so that user can perform Receipt Check-In when goods arrive. Otherwise, user can leave the PO as it is and add other items into this PO # at later stage.

4.1.4. Purchase Orders Manage

Purchase Order Manage provides a quick access for user to manage their purchase orders i.e to close the job, to release PO from data entry to prepare for receiving or simply to view the list of order details.



STEPS:

1. Click Purchase Orders Manage under the Inbound sub-module
2. Select Client (which is normally defaulted to the last used)
3. Select the PO# by clicking on the line. The line shall be highlighted and display on the Order Number header. User can select multiple PO lines. If user select multiple line, the # of Orders Selected shall display the number accordingly
4. Click Close Job or Start Job. For PO under Data Entry, a Start Job shall release the order for receiving task
5. Click List Order Details if user wishes to view the details under the PO selected.

4.1.5. Receipt Check-In

Receipt Check-In refers to receiving of goods in the inbound area. The system provides flexibility whereby depending on the Receipt Type used, the item inventory can be putaway immediately to location or hold in a putaway holding area for later putaway.

STEPS:

1. Click Receipt Check-In under the Inbound sub module
2. Select Client, enter a Document Reference and specify Receipt Type.

3. If receipt is performed under IW_Transfer, Normal or Return, this allows the user to chose either manual or system putaway. This means that user could perform later as a Warehouse Task. If otherwise are chosen, the system shall prompt for putaway location.
4. Click Save-F8 to create a New Receipt header. System shall promote Update NEW receipt. Click Yes.
5. Enter other information into the available field.
6. If receive tally to any Purchase Order created or make available in the system, select the PO using the drop down bar. This way, receiving takes reference to the PO which is released to the Check-In.
7. Click Receipt Details

For Receipt without PO reference, user has to create the detail item.

1. key the Item Code or select using the drop down bar. If drop down bar is selected, all the product item for this client shall be displayed.
2. Enter the received quantity based on the UOM specify.
3. if user has earlier specify Receipt Type that does not require System Location Assign, then specify the actual Location where items are stored. In system assigned, this step is not necessary

For Receipt with PO reference,

1. User can tally the PO item or click the Item Code drop down bar to select those items created in the PO.
2. Enter the received quantity based on the UOM specify.
3. if user has earlier specify Receipt Type that does not require System Location Assign, then specify the actual Location where items are stored. In system assigned, this step is not necessary
8. Return to Receipt Header and click VA Services (Value Adding Services) if available to select the kind of services that may be perform during receiving.
9. Confirm Receipt to update inventory

4.1.6. Receipt Costing

Receipt Costing allows the user to specify the costing of every receiving of goods. This is for the purpose of valuation, costing and invoicing purposes for and on behalf of the client if such services are required.

STEPS:

1. Click Receipt Costing under the Inbound sub module
2. Select the client and the Receipt Number using the drop down bar. The system auto generates a Receipt Data costing reference number.
3. Click ok and system list the items for this receipt.
4. Select the line item and enter the necessary Doc ref, Currency and Unit Price, click Save-F8.
5. Click Post Costing. Note: Version 5.395.1a under development

4.2. Outbound

Outbound module in CRiSTAL Warehouse Management System consists of functions pertaining outbound activities such as namely Delivery Confirmation, Invoice management, Load and Truck loading and Sales Management etc.

Stock deducted from the warehouse at this stage. However, CRiSTAL WMS allows site to decide whether the stock is to be deducted

1. At the point of generation of delivery order, or
2. At Delivery Confirmation

If the site configuration is the former, then Delivery Confirmation is an optional process in the warehousing / distribution with CRiSTAL WMS.

The use of Delivery Confirmation is therefore depend on the operational requirement of individual site.

4.2.1. Delivery Confirmation

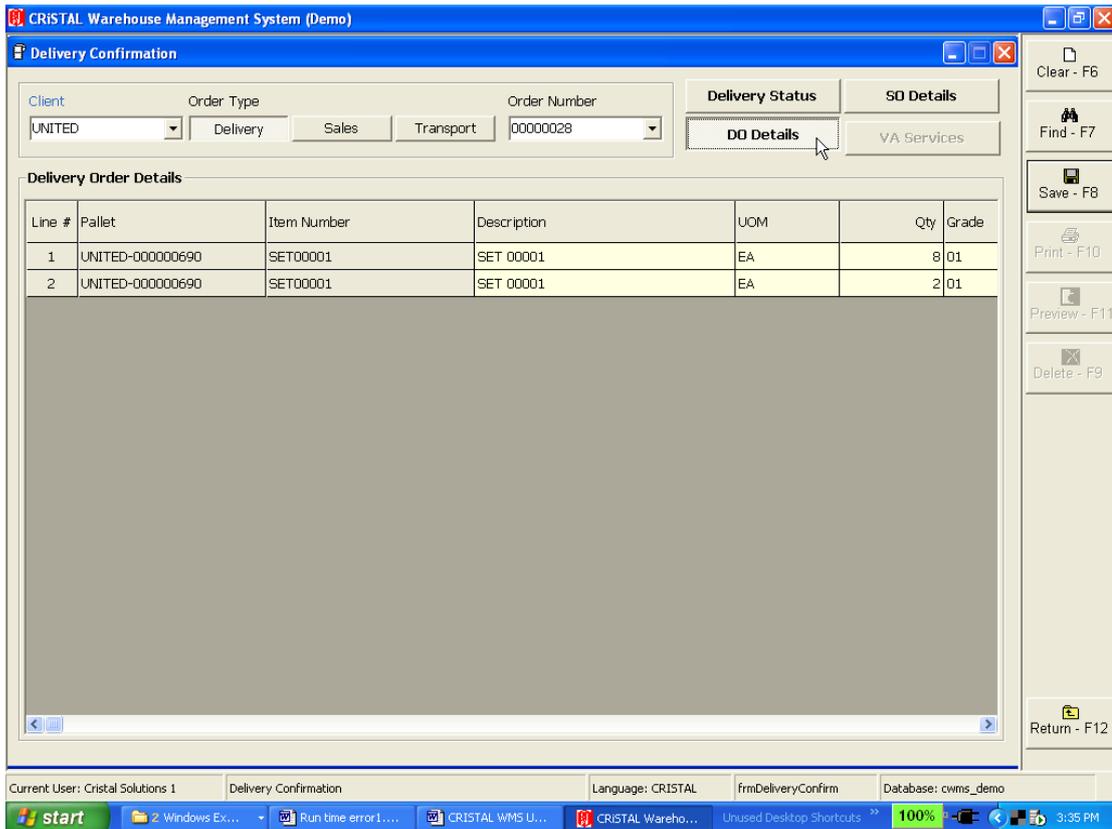
Delivery Confirmation is the final stage of the warehouse / distribution process in which the delivery is made and accepted by the customer. This closes the loop of the physical distribution function.

In CRiSTAL WMS, depending on site configuration, Delivery Confirmation may be an optional function.

Order No	Customer	Sales Order #	Delivery Order #	Status	Delivery Date	Delivered Date	Delivered Time
00000028	UNITED HOME ENTERTAINMENT CO., LTD					12/26/2007	3:34:34 PM
00000033	UNITED HOME ENTERTAINMENT CO., LTD						
00000034	Unlimited Pte Ltd						
00000035	UNITED HOME ENTERTAINMENT CO., LTD						
00000036	UNITED HOME ENTERTAINMENT CO., LTD						
00000037	Unlimited Pte Ltd						
00000038	UNITED HOME ENTERTAINMENT CO., LTD						
00000039	Unlimited Pte Ltd						
00000040	Unlimited Pte Ltd						
00000041	UNITED HOME ENTERTAINMENT CO., LTD						
00000042	Unlimited Pte Ltd						
00000044	Unlimited Pte Ltd						
00000045	Unlimited Pte Ltd						
00000046	Unlimited Pte Ltd						
00000047	UNITED HOME ENTERTAINMENT CO., LTD						
00000048	Unlimited Pte Ltd						
00000049	UNITED HOME ENTERTAINMENT CO., LTD						

STEPS:

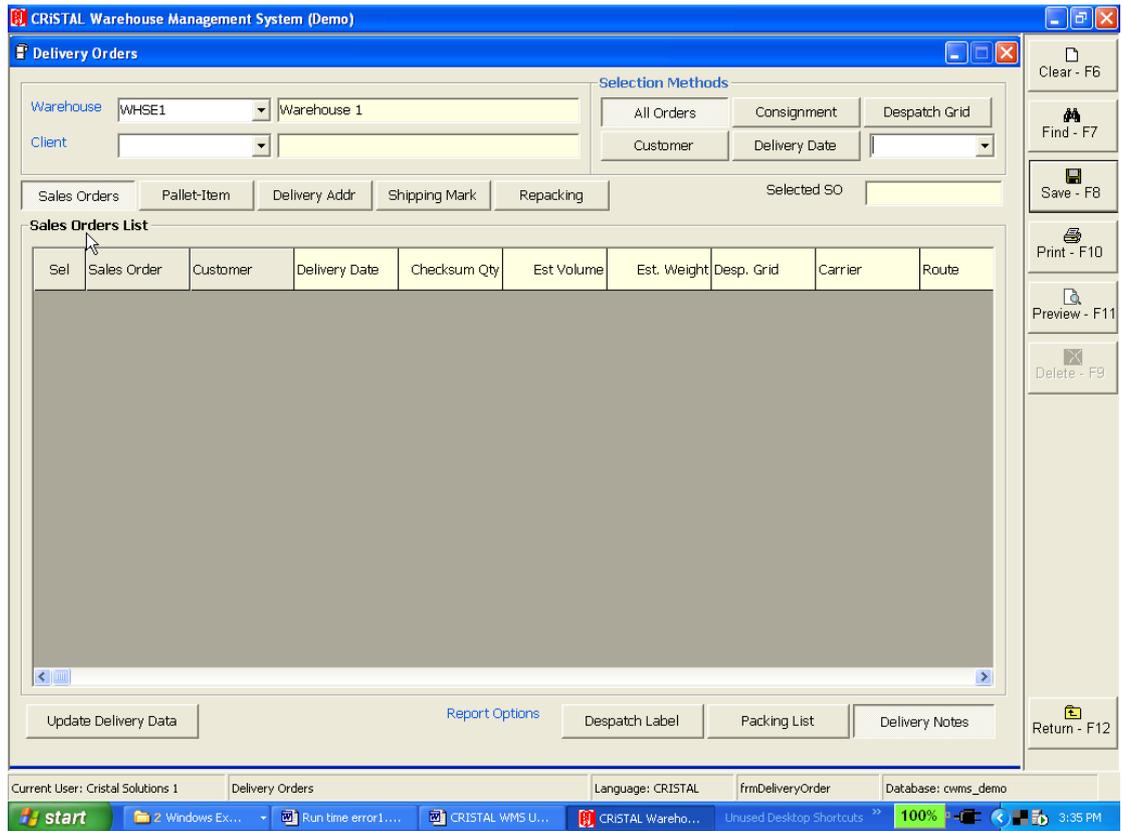
1. Click Delivery Confirmation under the Outbound sub-module.
2. Specify the Client
3. Select the Order Type by clicking the either Delivery, Sales or Transport buttons and the Oder Number #.
4. User can also list the order based on the status i.e Waiting, Loaded, Pending, Closed or All.
5. Once selected, the system displays the information.
6. User can select the DO details to view the items to confirm item.



7. Update the Delivered Date and Delivered Time. Enter Acknowledgement and Name of the recipient.
8. Click Save-F* to close the Sales Order.

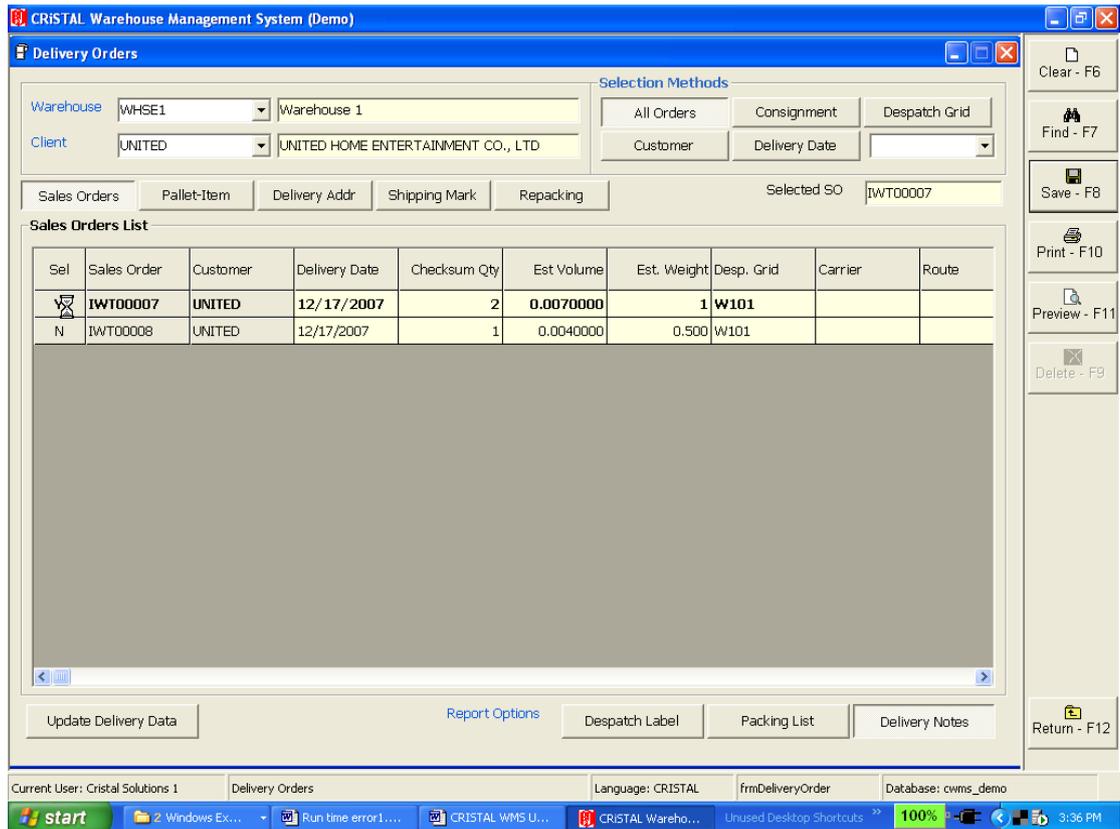
4.2.2. Delivery Orders

Delivery Orders module is an operation used after picking is made from a Sales Order. This module facilitate user to combine all items picked for the same client to be consolidated based on its Customer, Consignment, Despatch Grid or Delivery Date.



STEPS:

1. Select Delivery Orders under the Outbound sub-modules
2. Select Warehouse, Client and Selection Method.
3. Click Find-F7. The system list all picked item based on the Selection Method.
4. Select the Sales Order by double-clicking the line. The system allow user to select more than one Sales Orders.



5. Proceed to Pallet-Item.
6. Proceed to Delivery Addr. Select the customer of which the delivery shall be made.
7. Proceed to Shipping Mark to update the marking
8. Proceed to Repacking if there is a need to repack the items for shipment
 - a. In Repacking, the system allow user to Reconfigure Pallets and quantity
 - i. Select the Source Pallet and add the Destination Pallet. Indicate the quantity To Move to the Destination Pallet.
9. Click Delivery Notes of the Report Option and Print / Preview to close the Delivery Order.

4.2.3. Despatch Packing

Despatch Packing allows user to re-pack their cartons after based on its Sales Order or Delivery Order being generated

CRISTAL Warehouse Management System (Demo)

Despatch Packing

Client: UNITED, Customer: UNLIMITED, SO: KDN0000028, DO: [], Remark: []

Shipment Packing No: 00000003, Shipment Date: 4 / 7 /2007, Status: DATA ENTRY

Item Code: [], Pallet Number: CARTON 1, Plt Height: 1200, Plt Width: 1200, Plt Depth: 1200, Plt Weight: 1000

UOM: [], Quantity: [], Package Number: CARTON 1, Box Height: 1, Box Width: 600, Box Depth: 400, Box Weight: 200, Ship Packing: AMBIENT

Line	Item Code	UOM	Quantity	Grade	Batch
4	KDN0000028	PC	1		

Current User: Cristal Solutions 1, Despatch Packing, Language: CRISTAL, frmDeliveryPacking, Database: cwms_demo

STEPS:

1. Click Despatch Packing from the Outbound sub-module
2. Select Client and its customers.
3. Choose either the SO (Sales order) or DO (Delivery order). Specify the SO or DO from the valid list using the drop down bar.
4. For further clarification, seek CRiSTAL WMS consultant.

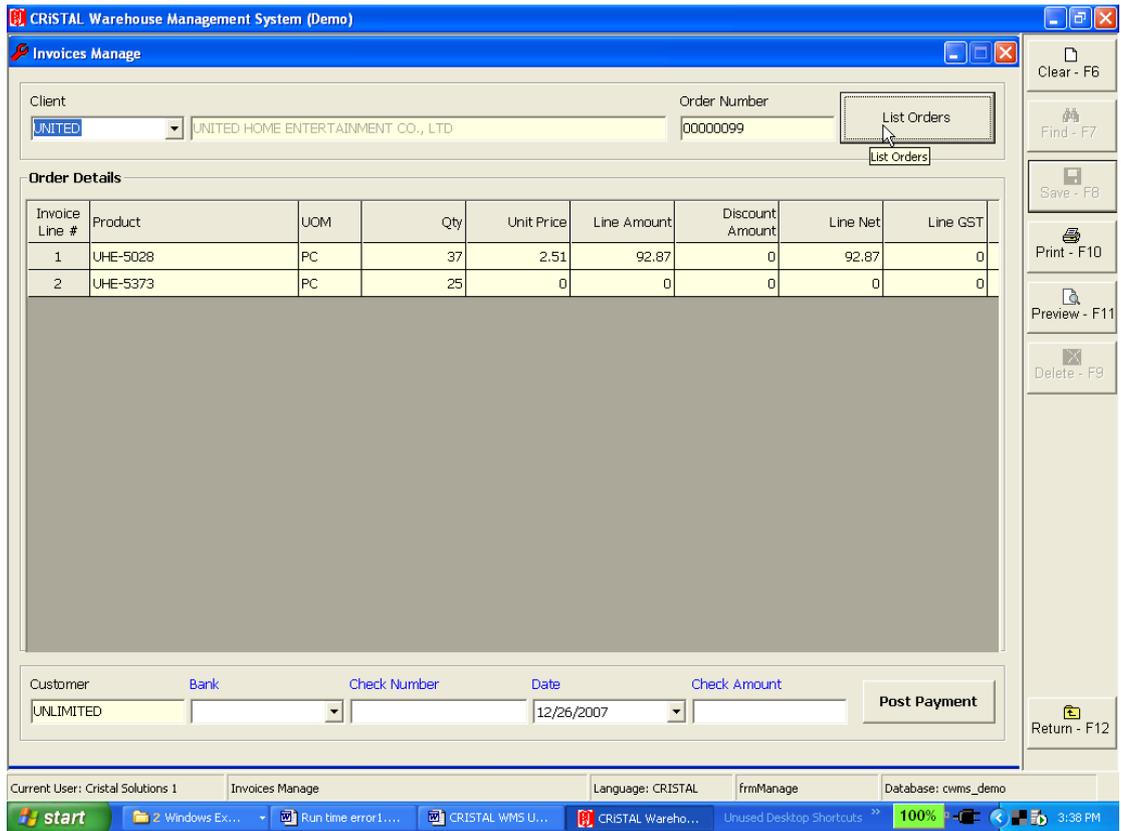
4.2.4. Invoice Manage

Invoice Manage allows user to collect payment on behalf of their client when delivery is made for the client. This module allows both user and their client to track the payment status and details.

Invoice No	Invoice date	Invoice Status	Customer	Name	Delivery Order	Sales Order	Delivered Date
00000099	4/11/2007	CLOSED	UNLIMITED	Unlimited Pte Ltd	00000005	GLS00002	

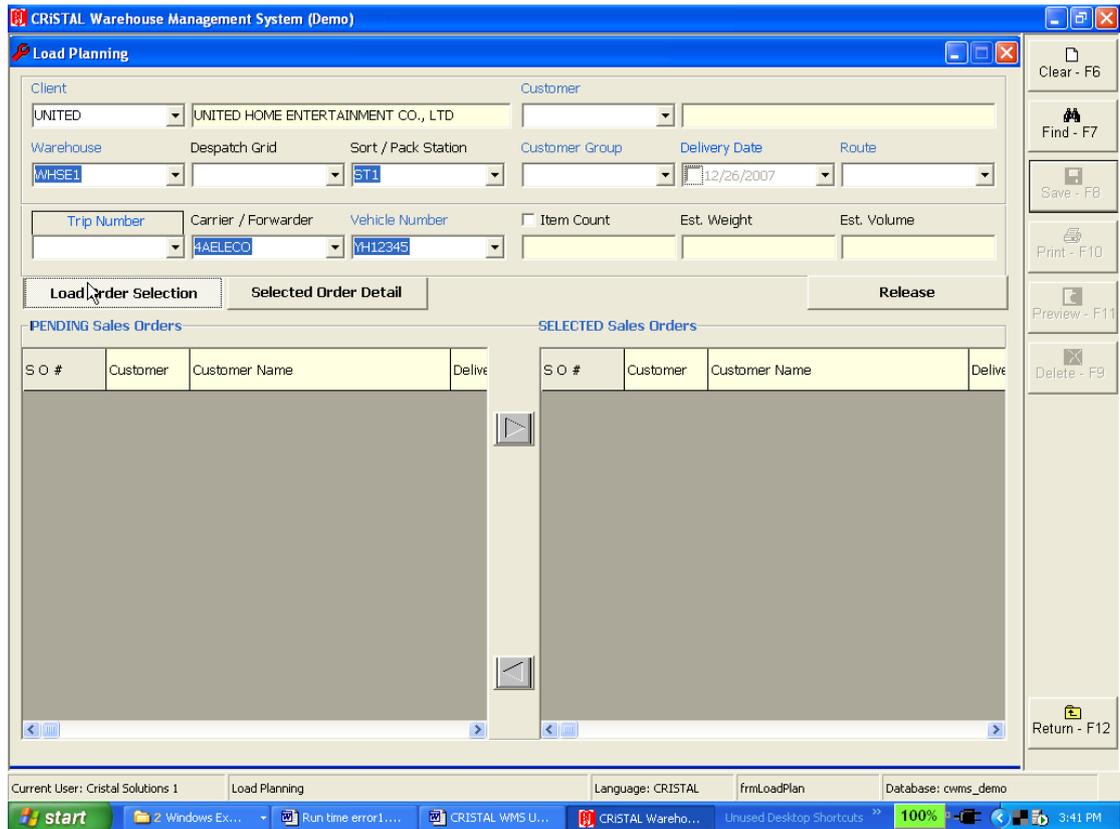
STEPS:

1. Click Invoices Manage under the Outbound sub module.
2. Select Client. A list of invoice shall be displayed.
3. Select the desired Invoice No. The screen reflects the customer of which the invoice is made.
4. Enter the Bank, Check Number, Date and Check Amount.
5. Click Post Payment. System shall update system.
6. The system also allows user to view the Order Details by clicking the List of Order Details.



4.2.5. Load Planning

Load Planning facilitate user to plan their release of Sales Order (for items that have not been assigned but release) for picking in such as way whereby they could be picked at the same period. This facilitates despatch planning.



STEPS:

1. Select Load Planning under Outbound sub-module.
2. Select Client and Click Find-F7. The system display all sales order that has been released, awaiting assignment.
3. Click Trip Number on the top and system auto assign a Trip Number.
4. Click checked on the Item Count so that system helps to consolidate all the selected weight and volume for loading plan purposes.
5. Select the SO# on the left column by double click or use the “to-right” button. Continue this step until it reaches truck’s allocated space.
6. Click Release and system prompts “Selected order processed for picking

Note: This assignment of picking is made available under Warehouse Tasks and all selected SO (per step 5) will be scheduled for picking according to the load plan.

4.2.6. Product Invoicing

Product Invoicing function allows user to print invoices based on the product of the Delivery Order.

CRISTAL Warehouse Management System (Demo)

Product Invoicing

Client: UNITED | Order Number: 00000006 | List Order Detail

Sales Order	Delivery Order	Customer	Name	DO Status	Planned Delivery	Despatch Date	Order Type
GLS00004	00000008	UNLIMITED	Unlimited Pte Ltd	LOADED	2/11/2007	6/19/2007	ADHOC
GLS00005	00000016	UNITED	UNITED HOME ENTERTAINMENT CO., LTD	LOADED	2/11/2007	7/3/2007	ADHOC
GLS00006	00000004	UNITED	UNITED HOME ENTERTAINMENT CO., LTD	LOADED	2/12/2007	11/8/2007	ADHOC
GLS00007	00000006	UNITED	UNITED HOME ENTERTAINMENT CO., LTD	LOADED	2/13/2007	6/19/2007	ADHOC
GLS00008	00000014	UNLIMITED	Unlimited Pte Ltd	LOADED	2/13/2007	7/3/2007	ADHOC
GLS00009	00000015	UNLIMITED	Unlimited Pte Ltd	LOADED	2/13/2007	7/3/2007	NORMAL
GLS00010	00000012	UNLIMITED	Unlimited Pte Ltd	LOADED	3/27/2007	7/3/2007	ADHOC
GLS00010	00000052	UNLIMITED	Unlimited Pte Ltd	WAITING	3/27/2007	9/21/2007	ADHOC
GLS00011	00000018	UNITED	UNITED HOME ENTERTAINMENT CO., LTD	LOADED	3/27/2007	7/10/2007	ADHOC
GLS00012	00000019	UNLIMITED	Unlimited Pte Ltd	LOADED	4/10/2007	7/10/2007	ADHOC
GLS00013	00000013	UNLIMITED	Unlimited Pte Ltd	LOADED	4/11/2007	7/3/2007	ADHOC
GLS00014	00000010	UNITED	UNITED HOME ENTERTAINMENT CO., LTD	LOADED	4/11/2007	7/3/2007	ADHOC
GLS00015	00000011	UNITED	UNITED HOME ENTERTAINMENT CO., LTD	LOADED	4/17/2007	7/3/2007	ADHOC
GLS00016	00000020	UNLIMITED	Unlimited Pte Ltd	LOADED	5/6/2007	7/10/2007	ADHOC
GLS00018	00000022	UNLIMITED	Unlimited Pte Ltd	LOADED	5/6/2007	7/10/2007	ADHOC
GLS00019	00000023	UNLIMITED	Unlimited Pte Ltd	LOADED	5/6/2007	6/27/2007	ADHOC

Deselect ALL | Sort Sequence: ORDER NO | Priority | Update Priority | List SELECTED | # of Orders Selected: 1 | Start Job

Current User: Cristal Solutions 1 | Product Invoicing | Language: CRISTAL | frmManage | Database: cwms_demo

STEPS:

1. Click Product Invoicing under the Outbound sub-module.
2. Select Client. System displays a list of Delivery Order.
3. Select the Sales order / Delivery Order line and click Start Job. System prompts SUCCESS.
4. System can be configured to print the invoice.

4.2.7. Sales Orders Entry

Sales Order Entry is an edit function to allow user to enter the sales order of their client in preparation of picking from the warehouse.

This function can be EDI from external sources using CRiSTAL EDI function.

The screenshot shows the 'Sales Orders Entry' window in the CRISTAL Warehouse Management System. The window is divided into several sections:

- Client Information:** Fields for Client (UNITED), Customer Code, and Customer Name.
- Order Information:** Fields for Sales Order #, Order Type (ADHOC), Order Date (12/26/2007), and Order Status (DATA ENTRY).
- Buttons:** Order Header, Order Details, Image Query, Duplicate Orders, Picks Assign, and Release To Whse.
- Sales Order Header:** Fields for Delivery Date (12/26/2007), Warehouse (WHSE1), and Despatch Station (ST1). It also includes checkboxes for Back Order and Full Pick Only.
- Consignment and Shipment:** Fields for Consignment, Shipment #, and Customs Declaration Type (EXPORT - BOI).
- Address:** Fields for State, Country, and Postal Code.
- Contact Information:** Fields for Contact Person and Telephone.
- Delivery Instructions:** A large text area for entering delivery instructions.
- System Information:** Fields for User ID, Date and Time, Last Modified, and Picks Confirmed.
- Sidebar:** Function keys: Clear - F6, Find - F7, Save - F8, Print - F10, Preview - F11, Delete - F9, and Return - F12.
- Status Bar:** Shows Current User: Cristal Solutions 1, Sales Orders Entry, Language: CRISTAL, frmSOEntry, Database: cwms_demo, and system time 3:42 PM.

STEPS:

1. Click Sales Order Entry under the Outbound sub-module.
2. Select Client, Customer, Document Reference and click Save-F8.
3. System prompts Create New Sales Order. Click Yes and system auto generate a new Sales Order #.
4. Fill in the relevant fields. Click Order Details to create line items.

The screenshot displays the 'Sales Orders Entry' window in the CRISTAL Warehouse Management System. The interface is divided into several sections:

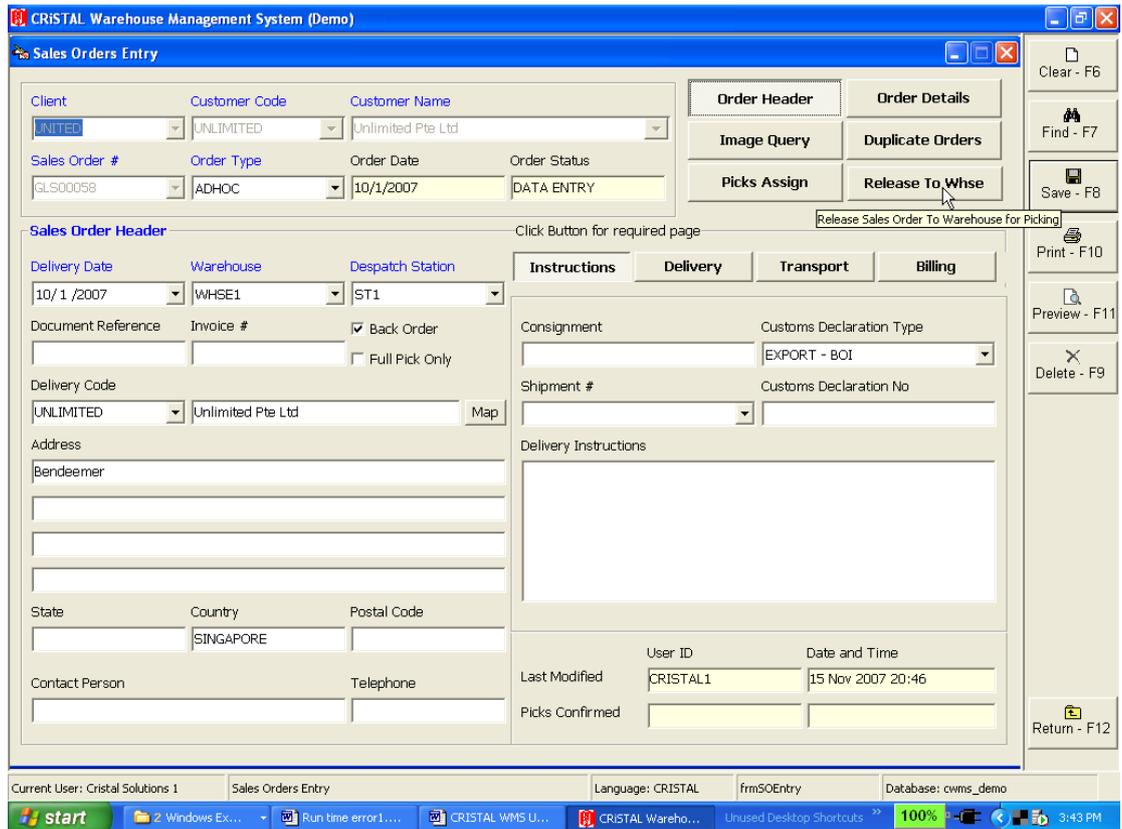
- Header Section:** Contains dropdown menus for Client (UNITED), Customer Code (UNLIMITED), and Customer Name (Unlimited Pte Ltd). It also includes buttons for 'Order Header', 'Order Details', 'Image Query', 'Duplicate Orders', 'Picks Assign', and 'Release To Whse'.
- Order Information Section:** Fields for Sales Order # (GLS00058), Order Type (ADHOC), Order Date (10/1/2007), and Order Status (DATA ENTRY).
- Table Section:** A table with columns: Line #, Product, Product Description, UOM, Quantity, Grade, Lot #, Batch #, and Exp. The first row shows Line # 1, Product SERIAL01, Product Description Serial Number Control 01, UOM EA, and Quantity 10.
- Attributes Section:** A detailed form for item selection with fields for Lot Number, Expiry Date, Item Size, Batch Number, Manufacturing Date, Item Color, Item Grade, UOM, and Quantity.
- Footer Section:** Displays system information: Current User: Cristal Solutions 1, Sales Orders Entry, Language: CRISTAL, frmSOEntry, Database: cwms_demo.

5. Select item from Item Code and Quantity. Click Save-F8
6. If inventory holds less than requested Sales quantity, system shall prompt insufficient message for further action.
7. Continue step 5 to 6 until sales order completes.
8. Return to Order Header.

User can decide to release sales order to warehouse for picking or to leave it as Data Entry status for later update.

To release to Warehouse for picking, continue

9. Click Release to Whse. System prompts acknowledgement and ask if Pick task is to be generated in Sales Order function or Warehouse Task.



The system allows user to Picks Assign the picking immediately.

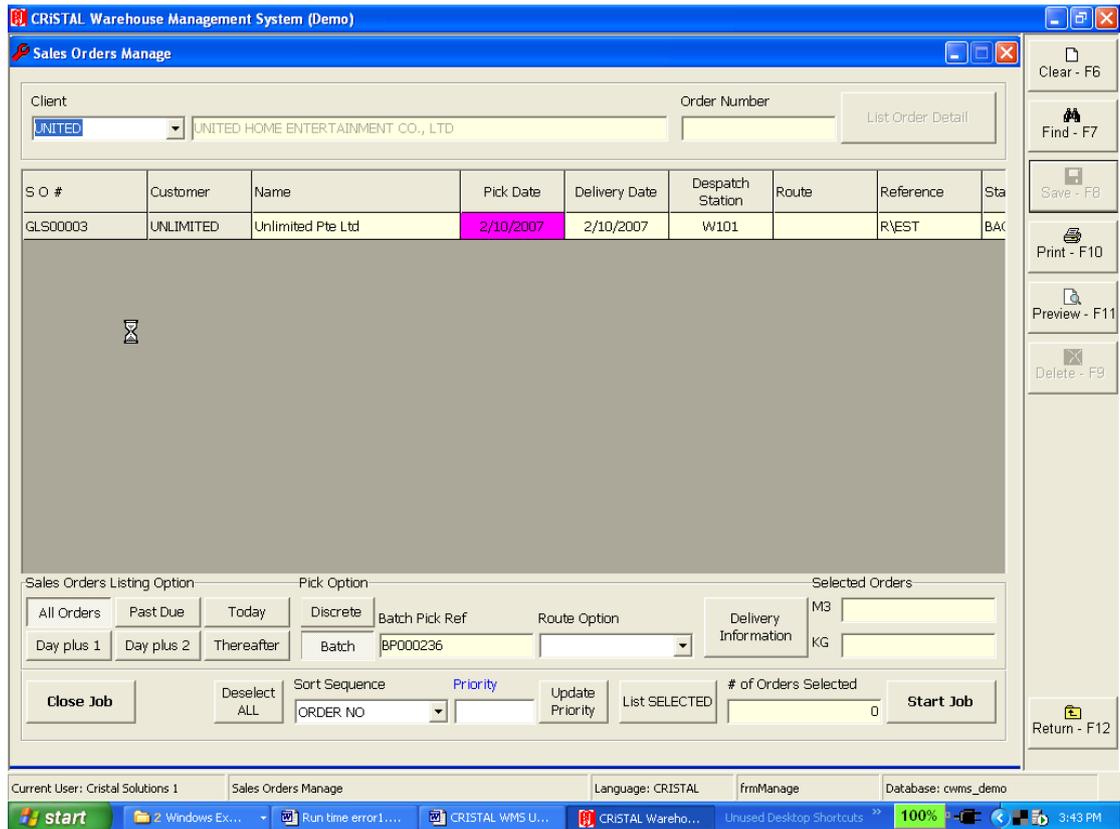
10. Click Pick Assign

11. Select Operator and click Generate Picks Order. System displays the items and location to be picked from and to.

12. Once picking is performed, click Confirm Picks Order

4.2.8. Sales Orders Manage

Sales Order Manage allows user to manage the Sales Order on an ad-hoc basis.



STEPS:

1. Click Sales Order Manage under Outbound sub-module
2. Select Client and system displays all sales order that has been released to warehouse that has not been assigned.
3. The system provides the option to user to select their Sales Order by All Orders, Past Due, Today, Day plus 1, Day plus 2 or Thereafter.
4. Select the SO# to be managed by clicking on the sales order line. The system displays the consolidated M3 and KG for information useful for later despatch purposes.
5. Click Start Job to release this Sales Order for picking in the Warehouse Task.

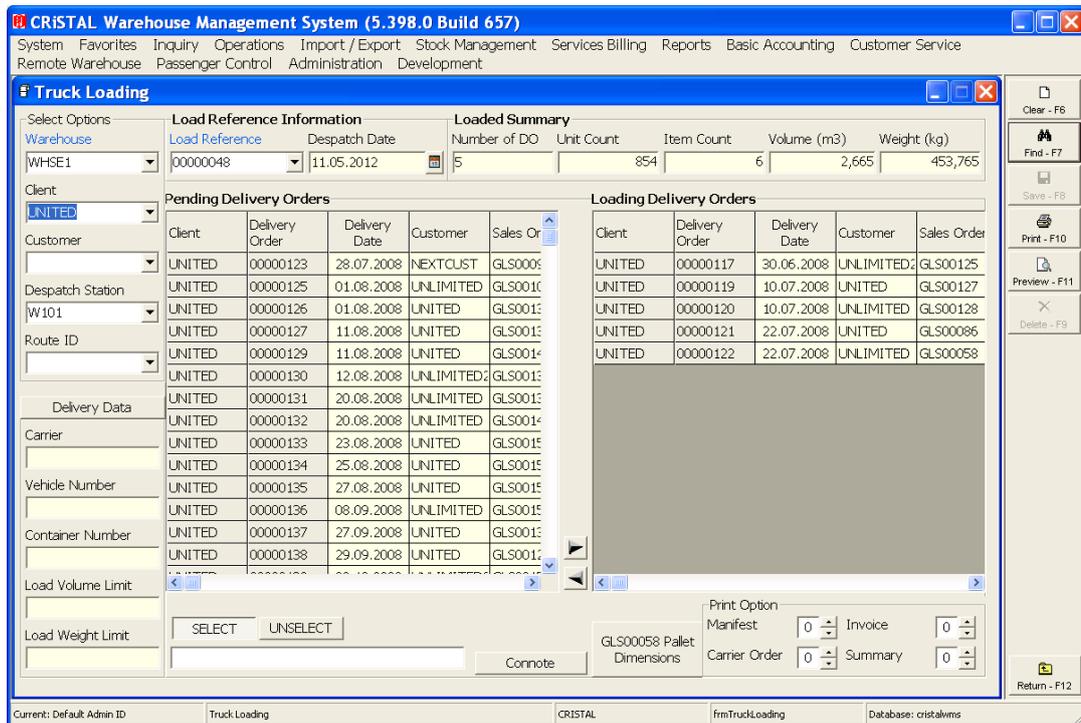
4.2.9. Truck Loading

This is based on Release 5.398 Build 657

Truck Loading allows user.

- To optimise their truck space by selecting and consolidate pending Delivery Order prior loading
- Print Load Manifest, Load Summary and invoices for shipping document purposes.

- Truck Loading is an optional process and must be activated in Client Profiles | Configuration



STEPS:

1. Click Truck Loading under the Outbound sub-module.
2. Select Client and click Find
 - a. System displays pending Delivery Order based option such as All Orders, Despatch, Customer or Routes.
3. Select the pending DO by clicking on the DO line on the left column. The selected DO line shall be transfer to the right column indicating the desired loading.
4. System auto generate Load Reference number.
5. Continue step 3 until it optimise the truck space.
6. After completion the selection, user can select to print following by specifying the number of copy required:
 - a. Load Manifest
 - b. Carrier Order
 - c. Invoice
 - d. Load Summary
 - i. Status of the selected Sales Orders shall be updated to DESPATCHED if Load Summary is printed

4.3. Warehouse

Under Warehouse, this sub module allows user to call for warehouse operation i.e Replenishments and Warehouse tasks

4.3.1. Replenishments Manage

In Replenishment Manage, the system retrieves pickface replenishment and allow user to Start Job to create as warehouse task so that user can perform picking and transfer items to pickface location.

Select	Warehouse	Pickface	Product	Grade	UOM	Replenish Level	Qty in Pickface	Replenish Qty	Qty in Reserve
Y	WHSE1	AB060101	UHE-5028	01	PC	30	0	300	2571
N	YTW	AG030101	CHT-1650	01	PC	100	0	400	5890

STEPS:

1. Click Replenishments Manage under Warehouse sub-modules
2. Select Client and system list all items required for replenishment.
3. Click the Product line.
4. Click Start Job.

4.3.2. Warehouse Tasks

In Warehouse Tasks, the system generates warehouse tasks from its work pool and assign to the operator that is authorised to perform warehouse task.

The screenshot shows the 'Warehouse Tasks' window in the CRISTAL Warehouse Management System. The window title is 'CRISTAL Warehouse Management System (Demo)'. The main area is divided into several sections:

- Header Fields:** Operator (CRISTAL1), Works Order # (00000084), Status (ASSIGNED), Client (UNITED), Task Type (S - Put Away), Receipt # (GL000018).
- Task List Table:**

Task #	Activity	Pallet #	Location From	Product	UOM (L)	Qty (L)	Pallet To
2	1	UNITED000236		UHE-5028	PC	200	UNITED000236
- Task Details Form:**
 - Task / Activity #: 2 / 1
 - Source Pallet: UNITED000236
 - Destination Pallet: UNITED000236
 - Item Code: UHE-5028
 - Item Description: 5028 Barney is Pajama Party
 - Item Grade: 01
 - UOM (Loose): PC
 - Quantity (Loose): 200
 - Batch Number: [Empty]
 - Receipt Date: 5/11/2007
 - Warehouse: WHSE1
 - Lot Number: [Empty]
 - Customer Owner: [Empty]
 - Location: AA040102
 - Expiry Date: 4/30/2009
 - Supplier: [Empty]
 - Zone / Area: GENERAL
 - Mfg Date: [Empty]
 - Serial Numbers: [Empty]
 - Check Digit: [Empty]
- Buttons:** Print Label, Print Consol WD, Label Utility, Confirm Task, Confirm ALL.
- Right Sidebar:** Clear - F6, Find - F7, Save - F8, Print - F10, Preview - F11, Delete - F9, Return - F12.
- Footer:** Current User: Cristal Solutions 1, Warehouse Tasks, Language: CRISTAL, frmWhseTask3, Database: cwms_demo.

STEPS:

1. Click Warehouse Tasks under the Warehouse sub-module
2. Ensure that the user is authorised to perform warehouse task. Select Operator and click Find-F7. The system generate warehouse task which could be either putaway, picking, replenishment etc depending on the operator's task allocation.
3. User may print the warehouse task as part of paper-based warehouse operation.
4. In the warehouse task, operator may be required to enter some of the control parameter such as Batch Number, Lot Number, Expiry etc depending on the product configuration.
5. Once the operation complete, click Confirm Task (for individual line item) or Confirm All for complete items. System acknowledge task complete and continue to issue next tasks.

4.3.3. Works Orders Manage

In Work Orders Manage, it provides a list of pending assigned work tasks. User can select single or multiple WO# and allocate Priority to release to the Warehouse Tasks

CRISTAL Warehouse Management System (Demo)

Works Orders Manage

Warehouse: WHSE1 Order Number: 00000126 List Order Detail

W O #	Task #	Priority	Task Type	Pallet	Client	Sales Order	Product	Description
00000138	1	50	P	WHSE1-AA010102	CANON HI-T	00000014	NEW ITEM	new item
00000129	1	50	S	UNITED000280	UNITED		PROD001	PROD001
00000129	2	50	S	UNITED000282	UNITED		PROD001	PROD001
00000129	3	50	S	UNITED000283	UNITED		PROD001	PROD001
00000129	4	50	S	UNITED000283	UNITED		UHE-5373	5373 He L
00000126	1	50	S	UNITED000228	UNITED		UHE-5028	5028 Barr
00000126	2	50	S	UNITED000229	UNITED		SET00001	SET 0000
00000126	4	50	S	UNITED000230	UNITED		CHT-1650	PIXMA IP
00000126	5	50	S	UNITED000230	UNITED		PROD001	PROD001
00000126	6	50	S	UNITED000231	UNITED		AI-13791	AI-13791
00000084	2	50	S	UNITED000236	UNITED		UHE-5028	5028 Barr

Close Job Deselect ALL Priority Update Priority List SELECTED # of Orders Selected 1 Start Job

Current User: Cristal Solutions 1 Works Orders Manage Language: CRISTAL frmManage Database: cwms_demo

STEPS:

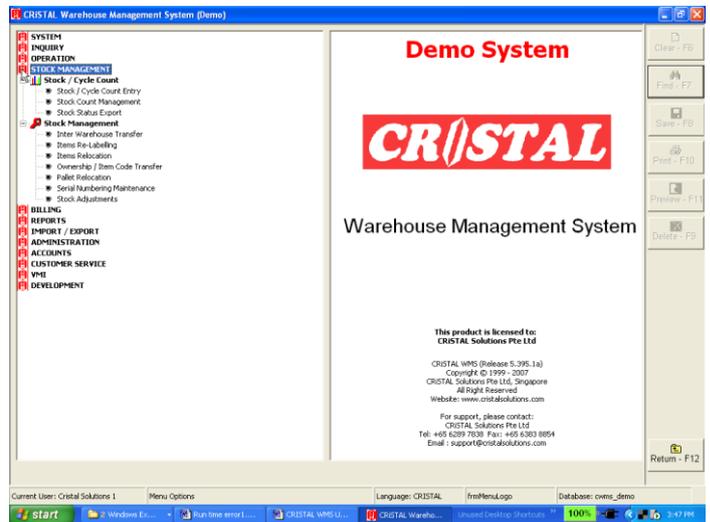
1. Click Works Orders Manage under the Warehouse sub-module
2. Select Warehouse. System display all pending assigned job
3. Select the WO# and assign Update Priority. Click Start Job to release as Warehouse Tasks.

5. STOCK MANAGEMENT

Stock Management modules acts as a “house keeping” function whereby it perform Stock Take, Adjustment, Item and pallet transfer and adjustment etc.

Under the Stock Management Module, there are sub-module comprises of:

1. Stock / Cycle Count
 - ✓ Stock / Cycle Count Entry
 - ✓ Stock Count Management
 - ✓ Stock Status Export
2. Stock Management
 - ✓ Inter Warehouse Transfer
 - ✓ Items Re-labelling
 - ✓ Items Relocation
 - ✓ Ownership / Item Code Transfer
 - ✓ Pallet Relocation
 - ✓ Serial Numbering Maintenance
 - ✓ Stock Adjustments



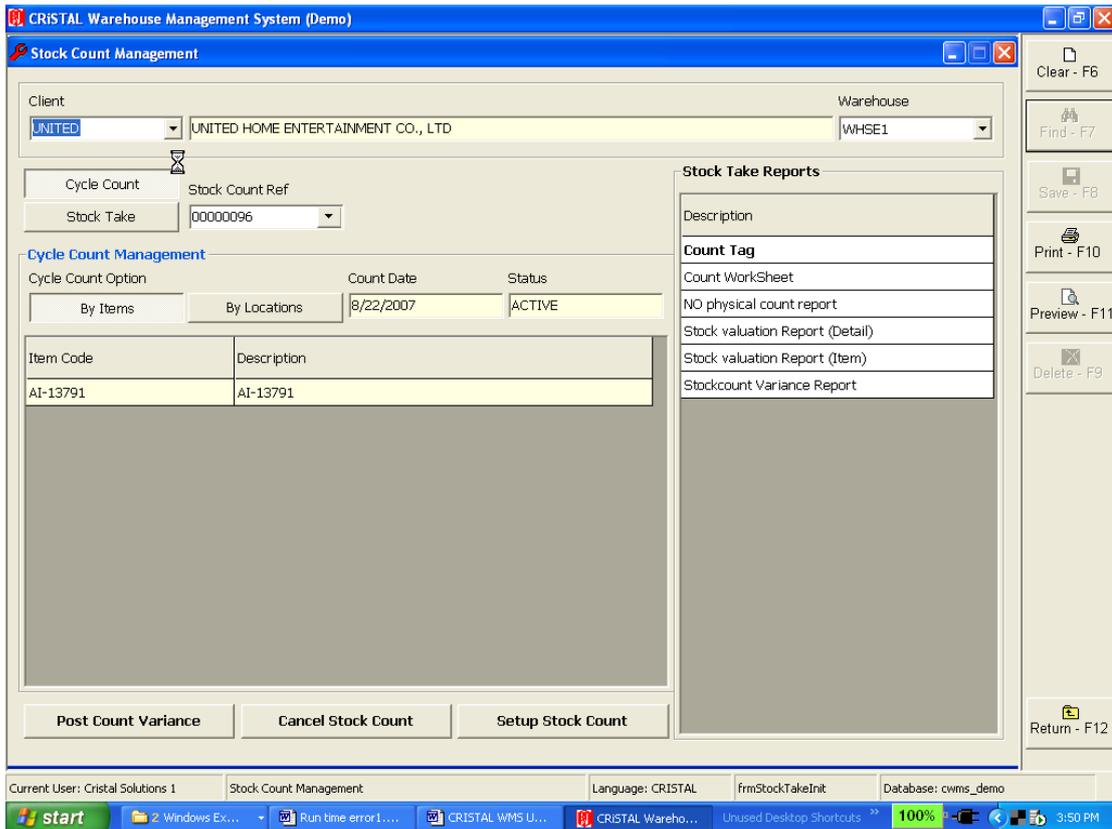
5.1. Stock / Cycle Count

CRISTAL Warehouse management system incorporates cycle counting and stocktaking to facilitate housekeeping in the warehouse.

It also facilitates stocktaking or stock comparison at host system by exporting stock balance for upload to the host system.

5.1.1. Stock Count Management

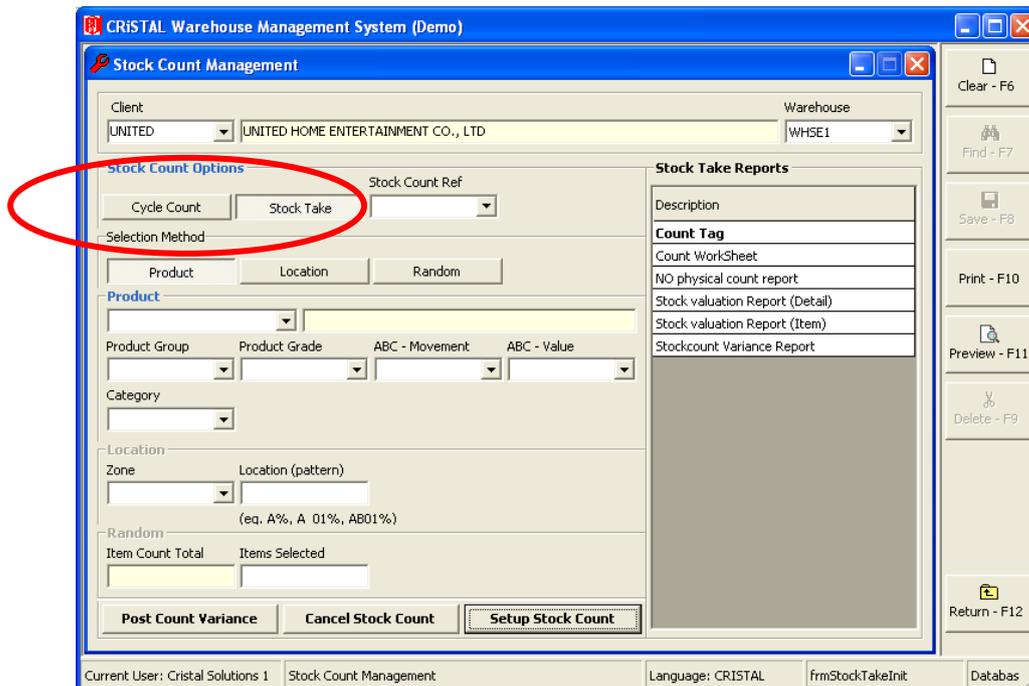
In Stock Count Management, CRISTAL WMS enables Count by Cycle Count of Stock Take. Each allows counting to be carry out either by Item Code (SKU) or by location



CYCLE COUNT

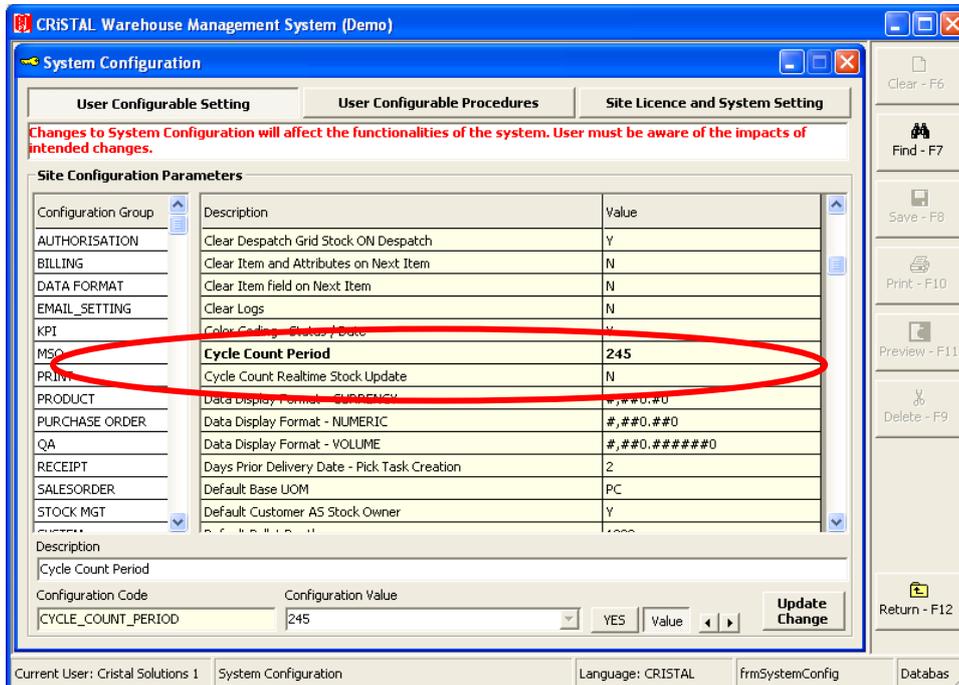
Setting Up Cycle Count

For SKU based cycle count, the cycle count can be based on activity, value or combination.



In cycle count, it is necessary to define the cycle count period (in number of working days) in which a count cycle is to be completed – namely every thing are counted as required.

The cycle count period is defined in the System Configuration:

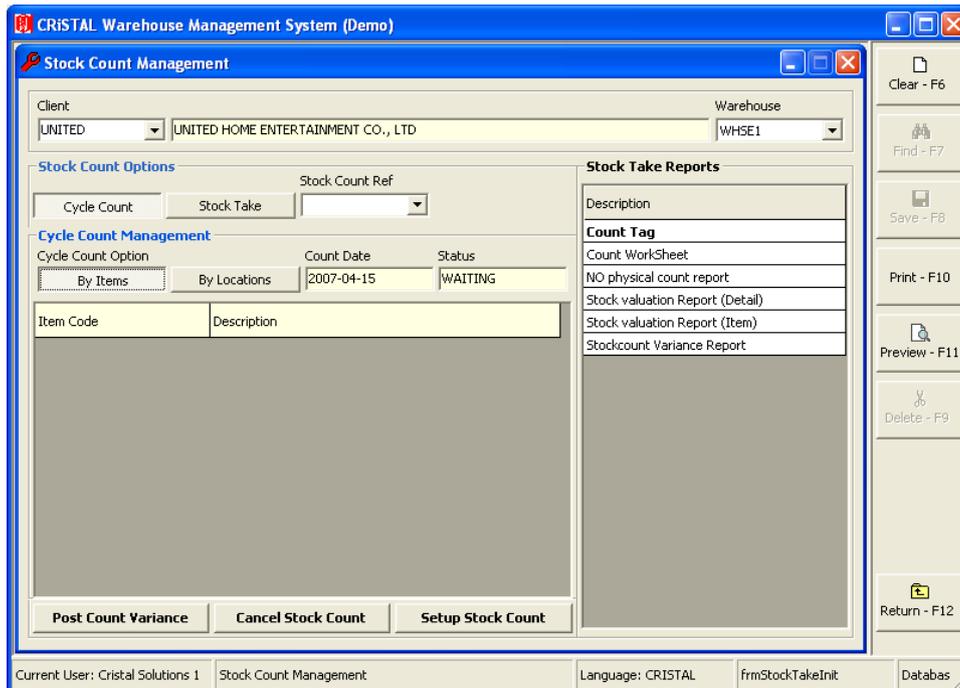


In addition, the Cycle Count Realtime Stock Update flags whether stock adjustment is to on realtime – adjust on updating of physical or otherwise.

If it is flagged as ‘N’, the physical count entry will be posted to a table in the system for review before posting.

In Cycle Count, the module allows count by Items or by Location. The system identifies item codes to be cycle-counted based on the Count Frequency, as specified in Product Definition for each item code and the Last Count date. The Last Count date is automatically updated by the ‘Setup Stock Count’ in the Stock Management.

Note: The Last Count date is not reverted when a Stock Count is cancelled instead of posted as skipping a count will result in Cycle Count not being completed in the specified cycle.



Setting Up Cycle Count Frequency

To facilitate the definition of the Count Frequency of the items, an utility is provided in the Administration | Miscellaneous Maintenance Tools -> ABC Class and Cycle Count Update.

The item codes are to be classified in ABC class by movements (Pick Frequency) and product value basing on FOB Cost.

(Refer to Miscellaneous Utilities documentation for details.)

Cycle Count by Items

Cycle count by Items is available by selecting the Item Code. When Item Code is triggered, the system computes the available Product. Select Product.

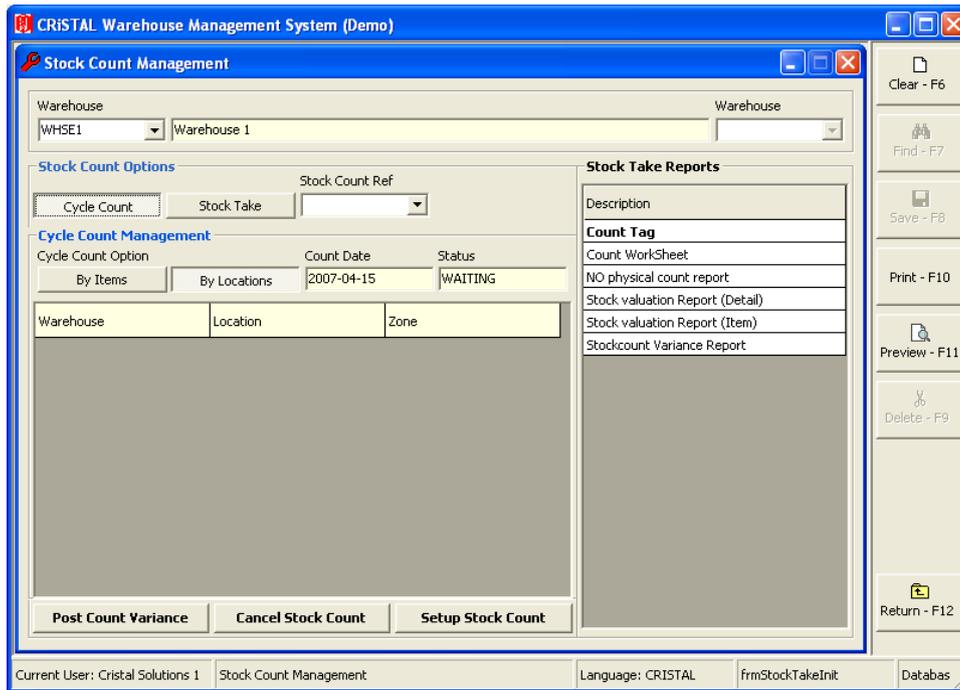
Cycle Count by Location

Cycle count by location is available at Warehouse level only.

When the location cycle count is triggered, the system computes the total number of 'AVAIL' locations in the warehouse and divides it by the cycle count period to compute the number of locations to be counted.

The locations are then identified from the locations matrix basing on the walk sequence in the warehouse. Empty location will also be selected.

The count task is then created based on the selected locations for items that are in the locations.



Starting Cycle Count

After selecting the Cycle Count Option, click on the button Setup Stock Count.

The system will based on the option specified and select the items or location to be counted.

Stock take

CRISTAL WMS provide for various options in carrying out a stocktake:

1. Product
 - a. User is further allowed to select a specific
 - i. Product code
 - ii. Product Group
 - iii. Product Grade
 - iv. ABC – Movement group
 - v. ABC – Value group
 - vi. Category
 - b. Or combination of above
 - c. Or none – which mean all Products
2. Location
 - a. User has the options of
 - i. Warehouse
 - ii. Zone
 - iii. Location or prefix of the location address
 - b. Or combination of above
 - i. user need to ensure it is a valid else no location will be selected
3. Random

- a. A variation of the stocktake take product code in which user specify the number of product code to be checked while the system select the product codes to check
- b. The selection may include product code that has no stock.

Conducting a Stocktake

To start and conduct a stocktake:

STEPS:

1. Specify the warehouse
2. Select the Client
3. Select the Stock Take option
4. Specify the option and select criteria
5. Click Setup Stock Count
6. Print the required worksheet
 - a. Count Tag – 1 page per location (see appendix)
 - b. Count Worksheet – by aisle (see appendix)
7. Perform the physical count
 - a. Record item found in location not in the worksheet in the space provided.
8. Input the count (see next section)
9. On completion of the count entry, generate the following reports to confirm the count and verify the variance
 - a. NO physical count report
 - i. Check for location that have not been counted or missing count entry
 - b. Stockcount Variance Report
10. If stock count is correct, print
 - a. Stock valuation Report (Detail), or
 - b. Stock valuation Report (Item)
11. On confirmation of acceptance of the stock count variance, click Post Count Variance
 - a. This synchronises the system stock balance with the physical stock count
 - b. Stock Adjustment entries are created in the movement history for all adjustments.

5.1.2. Stock Count Entry

The next step in the stocktaking or cycle count is the stock count entry.

5.2. Batch Mode

The stock count entry as described here is the batch mode count – stock counts are captured in a separate table. Reports of variances can be printed and reviewed. Recounts can be made till the management is satisfied and approved the count.

The screenshot displays the 'Stock / Cycle Count Entry' window. At the top, there are dropdown menus for Client (UNITED), Stocktake Ref (UNITED HOME ENTAINME), Warehouse (WHSE1), and Location (3A030201). A 'Variance Only' checkbox is present. The main area features a tree view on the left showing the hierarchy: WHSE1 Whse > 3A Aisle > 3A030201 > AA Aisle > AA010101, AA010102, AA020101, AA020102, AA030102, AA040101, AA050101 > AB Aisle > AB040302, AB050101. The central table shows one record: Rec Num 1366, Count # 0, Pallet WHSE1-3A030201, Product PRODD02, UOM PC. Below the table is a detailed form for the selected record, including fields for Rec Num (1366), Pallet (WHSE1-3A030201), Page (1 of 2), Grade (01), Lot Number, Item Code (PRODD02), UOM (PC), Batch Number, Description (PRODD02), Count Qty (30), Expiry Date, Remarks, Owner, and Manufacturing Date. The status bar at the bottom shows 'Current User: Cristal Solutions 1', 'Stock / Cycle Count Entry', 'Language: CRISTAL', 'frmStockCount', and 'Databas'.

To input the stock counts:

STEPS:

1. Select the location / item
2. Input the Count Qty
3. Click 'Save'
4. Repeat till all counts are updated

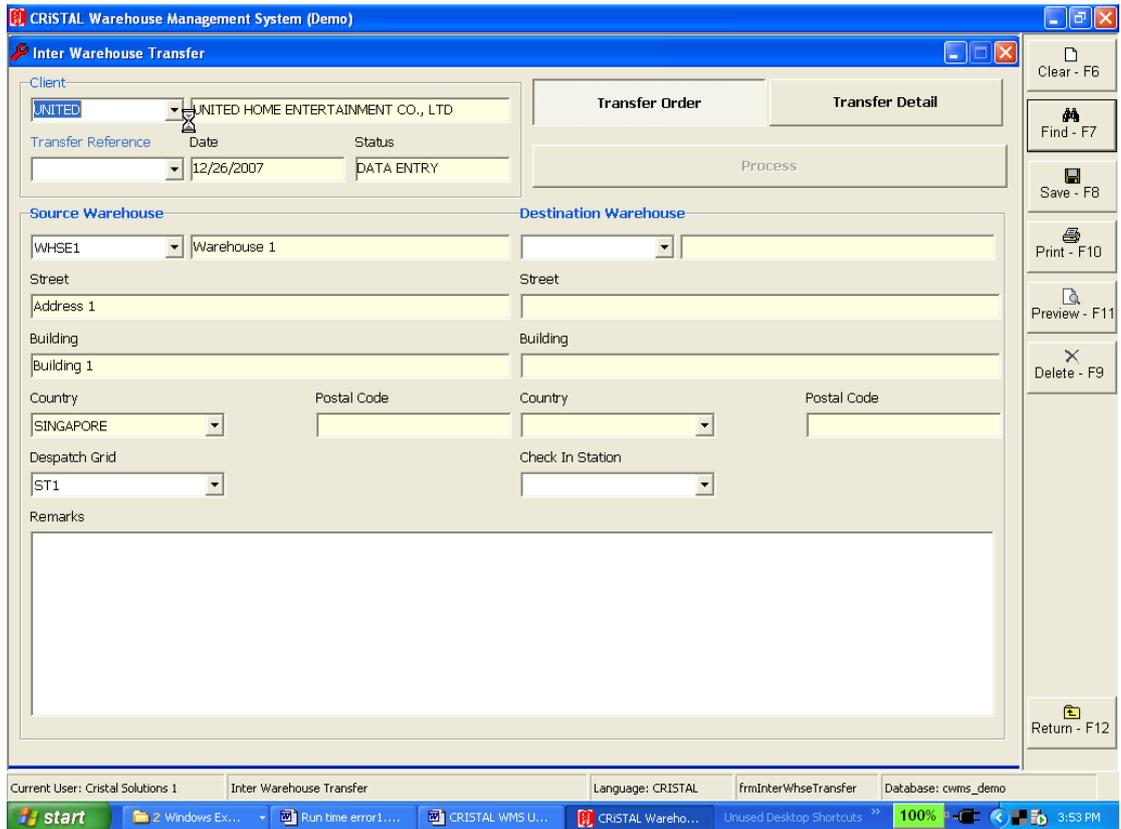
5.3. Stock Management

In Stock Management module, it allows user to house keep the warehousing on a Warehouse, item to pallet level.

5.3.1. Inter Warehouse Transfer

Inter Warehouse Transfer allows user to transfer inventory from a warehouse to another warehouse where both are maintained under one CRiSTAL WMS. In this module, it creates a Transfer Order reference and specifies the product

detail. The job is subsequently released into the Warehouse Task to perform the actual transfer.



STEPS:

1. Click Inter Warehouse Transfer under the Stock Management sub module.
2. Select the Source Warehouse and Destination Warehouse. Click Save F-8 to generate a Transfer Reference.
3. Select Transfer Details to create the Item of which inventory shall be transferred.

4. Select the Item Code and enter the Quantity.
5. Entry the necessary product parameter such as Batch Number, Expiry Date, Lot Number etc depending on the control requirement configured for this product.
6. Click Save-F8 to add to the list.
7. Repeat step 4 to 6 until the list is completed.
8. Return to Transfer Order
9. Click Process to release the transfer as Pick tasks.

Go to Warehouse Task to perform the actual transfer. Note: the job may be in sequence accordingly to all pending tasks on hand.

5.3.2. Items Re-labelling

Items Re-labelling allows user to change the select inventory attributes on item level but stored in the same warehouse and pallet location. The attributes includes it control parameter such as Lot Number, Batch number, expiry date etc depending on its product definition configuration. It does not adjust the overall quantity.

STEPS:

1. Click Items Re-labelling under the Stock Management sub module.
2. Select the Pallet using the drop down bar. The system displays all products that are stored on this pallet.
3. Select the Item No that requires re-labelling.
4. Change the label on the Revised Attributes column in accordance to General, Fashion, Dimensions and Bonded. Only those fields that allow to be revised will not be blocked by the system.
5. Enter the Reason Code using the drop down bar. Reason codes are generated under the Administration->System->System Parameter Maintenance->Reason Codes.
6. Click Save-F8 upon complete.

5.3.3. Item Relocation

Item Relocation allows user to relocate the item to a new location.

STEPS:

1. Click Item Relocation under the Stock Management sub-module.
2. Click the Source Pallet whereby the items shall be transferred.
3. Select the Destination Location using the drop down bar. The system automatically uses the Destination Pallet as the new pallet number.
4. Click Save-F8 to effect the change.

5.3.4. Ownership/Item Code Transfer

Owner / Item Transfer is designed as a productive tools to assist users in converting stock owned by one client to another or convert a product with one item code to another.

Typically when stock is transfer from one client to another, the stock have to be picked and then re-check in and putaway to some other storage location. Similarly when changing one item from one item code to another.

The Owner / Item Transfer function is designed to carry out a system transfer. Namely, no physical is required. The system effects the transfer by creating within the system the activities that is involved in a transfer – pick, check in and putaway into the original locations.

Ownership Transfer

STEPS:

1. Click Ownership/Item Code Transfer under the Stock Management sub-module.
2. Select the Original Client (From) and Destination Client (To) whereby the owner of the goods shall be transferred.
3. Enter the Item Code and Quantity.
4. Select the Destinated Item code. Note: the Destinated Item code must belong to the Destinated Client.
5. Click Add/Update.
6. Repeat step 3 to 5 to complete the list.
7. Click Process. The job shall be added to the Warehouse Task

Item Code Transfer

STEPS:

1. Click Ownership/Item Code Transfer under the Stock Management sub-module.
2. Select the Original Client (From) and use the same for Destination Client (To).
3. Enter the Item Code and Quantity.

4. Select the Destinated Item code.
5. Click Add/Update.
6. Repeat step 3 to 5 to complete the list.
7. Click Process. The job shall be added to the Warehouse Task

5.3.5. Pallet Relocation

Pallet Relocation allows user to transfer the whole pallet from one location (Source) to another (Destination).

The screenshot displays the 'Pallet Relocation' window in the CRISTAL Warehouse Management System. The window title is 'CRISTAL Warehouse Management System (Demo) Pallet Relocation'. The interface includes a 'Client' dropdown set to 'UNITED HOME ENTERTAINMENT CO., LTD' and a 'Document Reference' dropdown with options 'N', 'R', and 'S'. Below these are 'Source' and 'Destination' sections, each with 'Whse' (set to 'WHSE1') and 'Pallet' dropdowns. There are also 'Location' and 'Item' dropdowns. A table titled 'Items In Pallet' is currently empty. The window has tabs for 'General', 'Fashion', 'Dimensions', and 'Bonded'. A 'Common Stock Control Attributes' section is divided into 'Original Attributes' and 'Revised Attributes', with fields for Lot No, Batch No, Expiry Date, Mfg Date, Receipt Date (set to 12/26/2007), Owner, Supplier, and Country. On the right side, there are buttons for 'Clear - F6', 'Find - F7', 'Save - F8', 'Print - F10', 'Preview - F11', 'Delete - F9', and 'Return - F12'. The bottom status bar shows 'Current User: Cristal Solutions 1', 'Pallet Relocation', 'Language: CRISTAL', 'frmStockMaintenance', and 'Database: cwms_demo'. The Windows taskbar at the bottom shows the start button, open windows, and the time 4:00 PM.

STEPS:

1. Click Pallet Relocation under the Stock Management sub-module.
2. Select the Client.
3. Select the Pallet using the drop down bar. The system display the list of products stocked for this pallet.
4. Select the Location of the Destination Pallet using the drop down bar.
5. Click Save-F8 to update the transfer.

5.3.6. Stock Adjustment

Stock Adjustment allows user to adjust the stock of the inventory based on the pallet or location.

The screenshot displays the 'Stock Adjustments' window in the CRISTAL Warehouse Management System. The interface includes a 'Client' dropdown set to 'UNITED' and a 'Document Reference' section with 'UNITED HOME ENTERTAINMENT CO., LTD' and buttons for 'N', 'R', and 'S'. The 'Source' and 'Destination' sections both show 'Whse' as 'WHSE1'. Below these are fields for 'Pallet', 'Location', and 'Item'. A large 'Items In Pallet' table is currently empty. Navigation tabs for 'General', 'Fashion', 'Dimensions', and 'Bonded' are visible. The 'Common Stock Control Attributes' section is divided into 'Original Attributes' and 'Revised Attributes', with fields for Lot No, Batch No, Expiry Date, Mfg Date, Receipt Date, Owner, Supplier, and Country. The 'Receipt Date' field is populated with '12/26/2007'. To the right, there are fields for 'Item Grade', 'UOM', 'Quantity', 'Reason Code', and a 'Remarks' text area. The bottom status bar indicates the user is 'Cristal Solutions 1', the window is 'Stock Adjustments', the language is 'CRISTAL', the form is 'frmStockMaintenance', and the database is 'cwms_demo'.

STEPS:

1. Click Stock Adjustment under the Stock Management sub-module
2. Select Client, Source Whse and Pallet of which the inventory is stored. The system display a list of inventory kept on this pallet.
3. Select the Item No and system display the details.
4. Enter the Quantity to be adjusted and select Reason Code.
5. Click Save-F8 to update the adjustment. Only system is adjusted, there is no physical movement.

6. REPORTS

All reports in CRISTAL WMS are formatted with Seagate Crystal Reports.

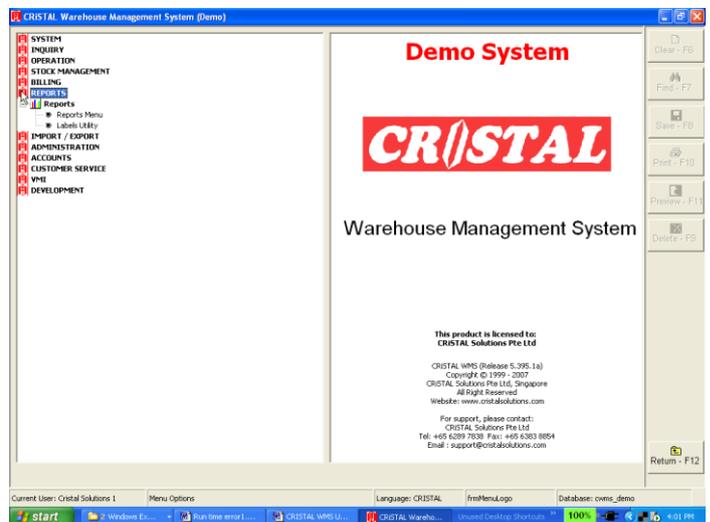
CRISTAL WMS is implemented with a comprehensive range of reports. Although there are over 120 report templates, CRISTAL Solutions does not expect this to meet the requirement of all users. Also the reports may not be in the format of user requirement

Users are therefore given the right to customise and the templates to suit their own requirement. However, CRISTAL Solutions do not cover support for modified report templates under the standard maintenance agreement.

A User Defined Reports function is incorporated in the Reports menu, which enable user to format their own reports using Seagate Crystal Reports.

Under the Reports Module, there are sub-module comprises of:

1. Reports Menu
2. Labels Utility

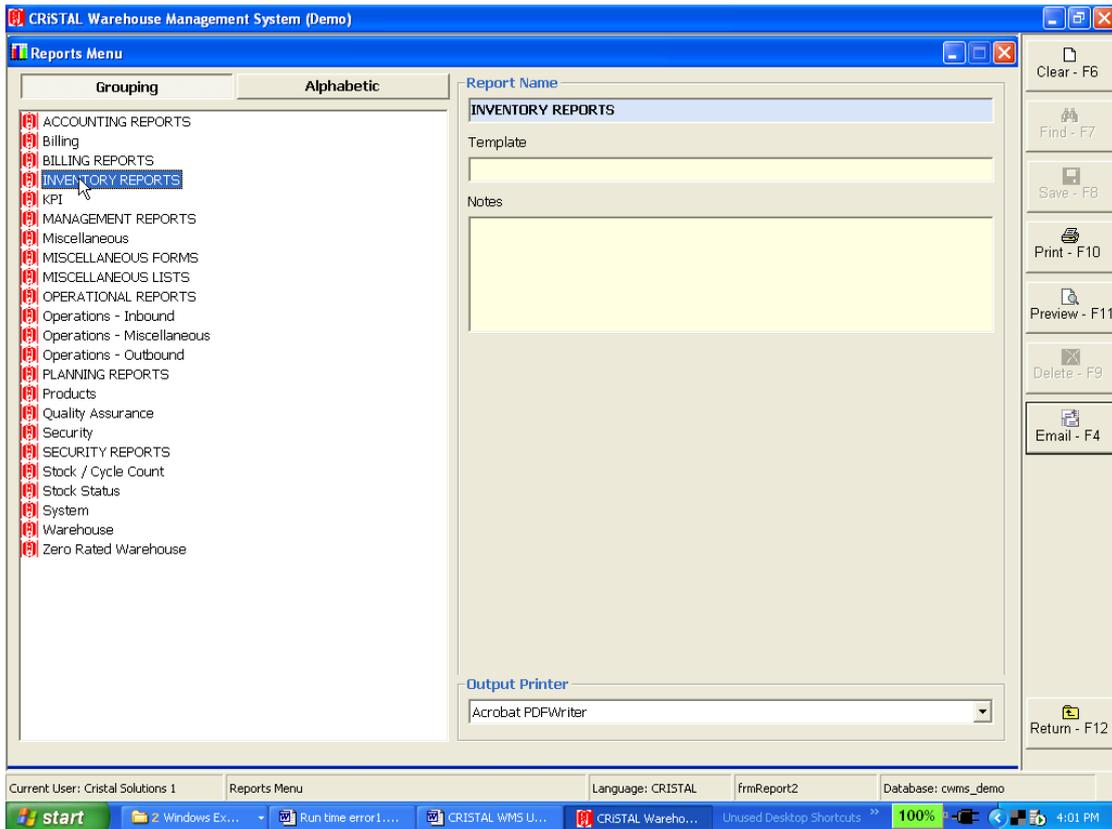


6.1. Report Menu

In Report Menu, this provides warehouse related report that is available under CRISTAL WMS.

To help users to search for appropriate report, this Report Menu provides Grouping and Alphabetic search method.

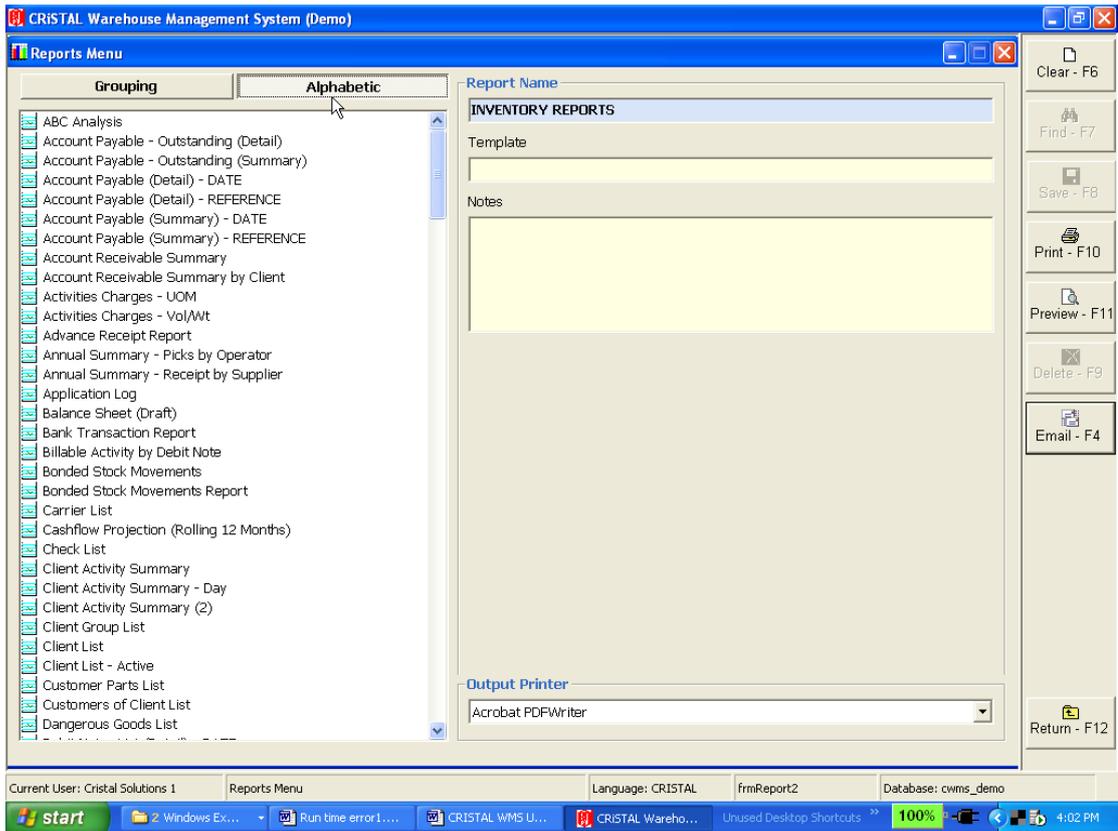
Under Grouping, the classification is grouped under the functional aspect whereas under Alphabetical, it is grouped name of the template but in alphabetic order.



STEPS:

1. Click Report Menu
2. Select either Grouping or Alphabetic method to search for report template.
3. Click the required report type.
4. Fill the necessary information required by each template type and click Review to view or Print to print the report. User has the option of using Window's printing option by clicking the Output Printer's drop down bar.

Under Reports Menu, an additional Action Key is provide for Email. Click Email-F4 and system prompt for message box. Fill the necessary information and lick Send.

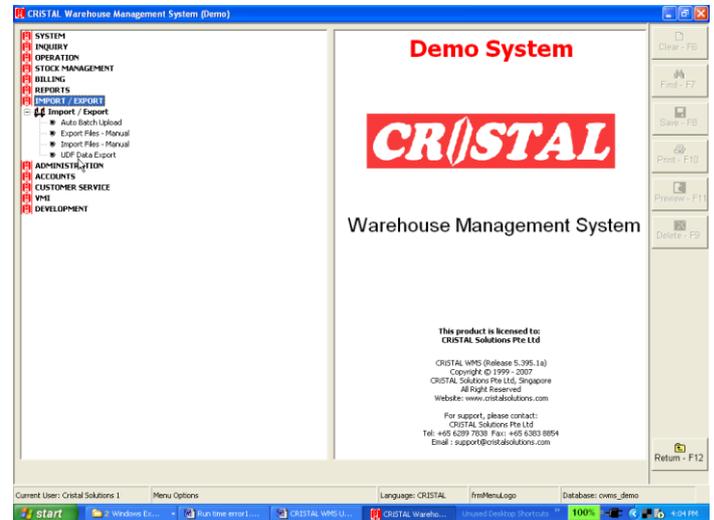


7. IMPORT / EXPORT

Import / Export module provides user quick import and export of data from other folder into CRiSTAL's database.

Under the Import/Export, we have the following:

1. Auto Batch Upload
2. Export Files – Manual
3. Import Files – Manual
4. UDF Data Export



7.1. Import / Export

7.1.1. Auto Batch Upload

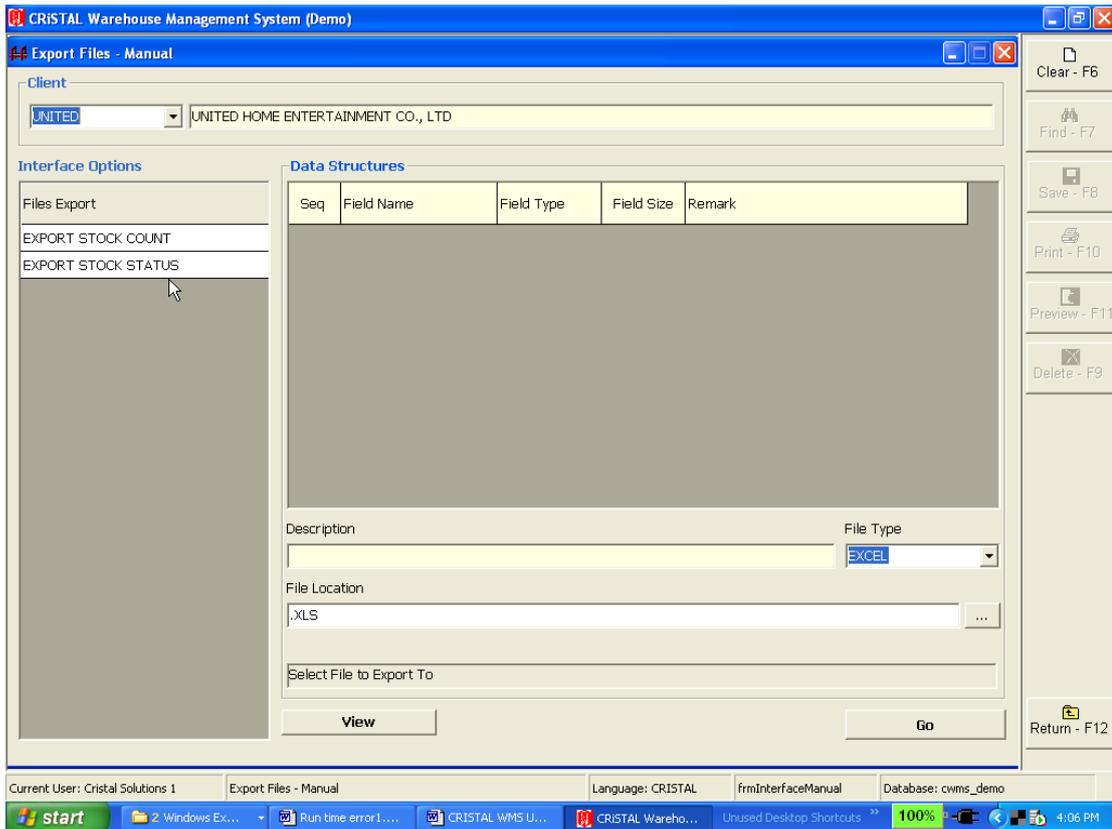
For automated host interfacing, please refer to the vendor or implementation consultant. Automated host interfacing is only available in the Enterprise version of CRiSTAL WMS.

7.1.2. Export Files - Manual

The manual host interfacing function is designed to enable to import or export data to/from the CRiSTAL WMS on an ad hoc basis.

Export is designed to upload data directly from WMS. Current version allows uploading of:

1. Export Stock Count
2. Export Stock Status

**STEPS:**

1. Click Export Files – Manual under the Import/Export sub-module.
2. Select Client and type of Interface option.
3. Select the File Location whereby the exported files will be stored in the computer.

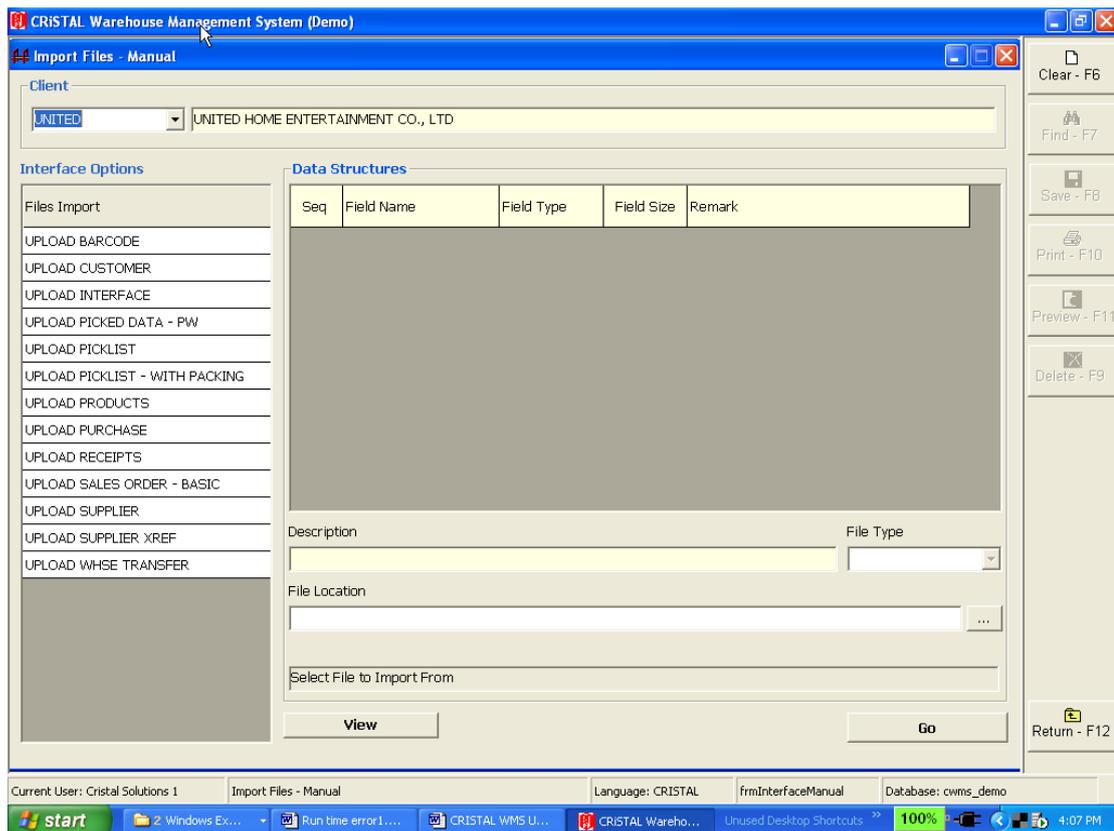
User can click View or Go to activate the Import process.

7.1.3. Import Files – Manual

Import is designed to upload data directly into the WMS. Current version allows uploading of:

- a. Barcode
- b. Customer (master)
- c. Interface
- d. Picked Data
- e. Picklist (sales order)
- f. Products (master)
- g. Purchase
- h. Receipts
- i. Sales Order
- j. Supplier (master)

k. etc (as made available on newer version)



STEPS:

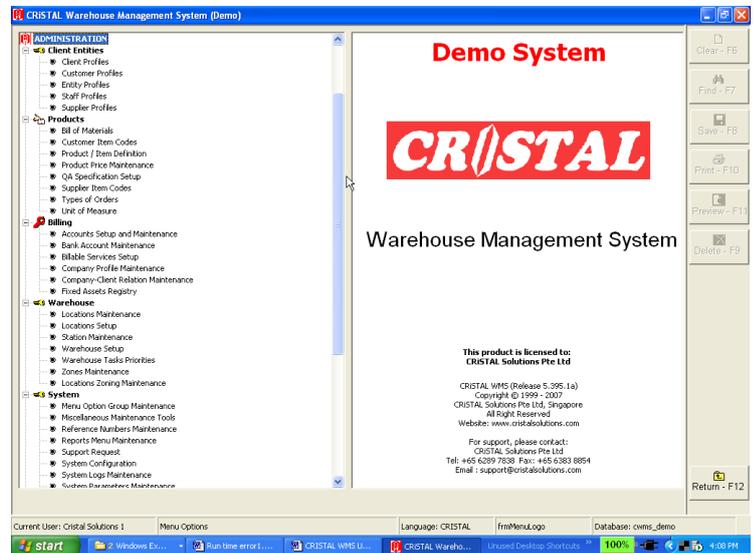
4. Click Import Files – Manual under the Import/Export sub-module.
5. Select Client and type of Files to be Imported. Upon clicking the type of import files, system displays the Data Structure for reference/information purpose.
6. Select the File Location whereby the imported files are stored in the computer.
7. User can click View or Go to activate the Import process.

8. ADMINISTRATION

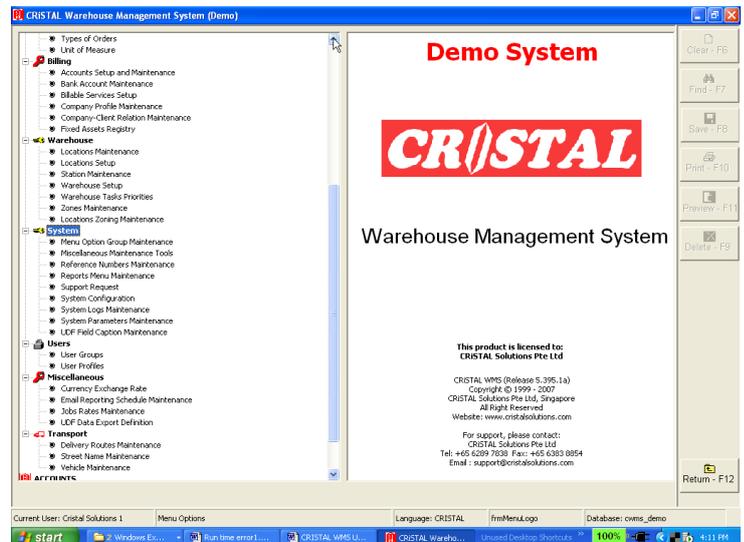
Administration module contains the essential system set up and configuration before CRiSTAL WMS can be operationally functional. It typically requires a one-time set up or create whenever there's a new requirement.

Under the Administration module, there are sub-module comprises of:

1. Client Entities
 - ✓ Client Profiles
 - ✓ Customer Profiles
 - ✓ Entity Profiles
 - ✓ Staff Profiles
 - ✓ Supplier Profiles
2. Products
 - ✓ Bill of Materials
 - ✓ Customer Item Codes
 - ✓ Product / Item Definition
 - ✓ Product Price Maintenance
 - ✓ QA Specification Setup
 - ✓ Supplier Item Codes
 - ✓ Types of Orders
 - ✓ Unit of Measure
3. Billing
 - ✓ Accounts Setup and Maintenance
 - ✓ Bank Account Maintenance
 - ✓ Billable Services Setup
 - ✓ Company Profile Maintenance
 - ✓ Company-Client Relation Maintenance
 - ✓ Fixed Assets Registry
4. Warehouse
 - ✓ Locations Maintenance
 - ✓ Location Setup
 - ✓ Station Maintenance



- ✓ Warehouse Setup
- ✓ Warehouse Tasks Priorities
- ✓ Zones Maintenance
- ✓ Locations Zoning Maintenance
- 5. System
 - ✓ Menu Option Group Maintenance
 - ✓ Miscellaneous Maintenance Tools
 - ✓ Reference Numbers Maintenance
 - ✓ Reports Menu Maintenance
 - ✓ Support Request
 - ✓ System Configuration
 - ✓ System Logs Maintenance
 - ✓ System Parameters Maintenance
 - ✓ UDF Field Caption Maintenance
- 6. Users
 - ✓ User Groups
 - ✓ User Profiles
- 7. Miscellaneous
 - ✓ Currency Exchange Rate
 - ✓ Email Reporting Schedule Maintenance
 - ✓ Jobs Rates Maintenance
 - ✓ UDF Data Export Definition
- 8. Transport
 - ✓ Delivery Routes Maintenance
 - ✓ Street Name Maintenance
 - ✓ Vehicle Maintenance



8.1. Client Entity

Client in CRiSTAL WMS refers to the user's clients. In a 3rd Party Logistics industry, client would refer to the likely billable customer.

8.1.1. Client Profiles

In Client Profiles, this allows user to create Client whereby they authorised the storage of the goods in the warehouse. In this module, the left column reflects the list of client and the right are the particular field.

There are four tabs that requires set up. They are Client's Info, Client Config, Client Billing Info and Stock Owner.

- Client Info inputs the necessary particular of this client.
- Client Config inputs the operational logic for this client
- Billing Info would be the billing address whereby invoices of the user shall be addressed to
- Stock Owner refers to the product owner whereby the goods will be supplied to.

Client	Name
UNITED	UNITED HOME ENTERTAINMENT CO., LTD

Client Address

Name: UNITED HOME ENTERTAINMENT CO., LTD Status: ACTIVE

Address: 2/4 Samakkee Prakanphai Building
Viphavadee Rangsit Tungsonghong Lak Si
Bangkok

State: Country: THAILAND Postal Code: 10210

Telephone: 662-9550561-3 Fax Number: 662-9550564

Contact Person: _____

Email: dlee@crystalsolutions.com.sg

STEPS:

In Client Info,

1. Create Client Code. The code can be in Alpha-numeric format. This Code shall be reflected in all the client fields in all operational module

and should therefore be easily identify by the user who is the actual client.

2. Enter the client particular such as the address, status etc. Note: Client Status must be ACTIVE before operation can be performed.

In Client Config, fill the mandatory field in blue.

CRISTAL Warehouse Management System (Demo)

Client Profiles

Client	Name
UNITED	UNITED HOME ENTERTAINMENT CO., LTD

Client Code: UNITED

EAN Company Code: []

Client Configuration

RF Putaway Method: FREE | Document Ref Series: GLOBAL

Pick Method: FEFO-FIFO | Pick Pack First: No | YES

Pick Sequence Method: WALK SEQ | Pallet Sequence: 298

Unique Reference #: | Backorder Sales Orders: | Assign Picking By Order: | Product Costing: | Delivery Confirmation: | Customer Stock Ownership:

Receipt Control: YNNNNNNNNN ? | Sales Order Control: YYYNNNNNNNN ?

Interface Files Creation Setting

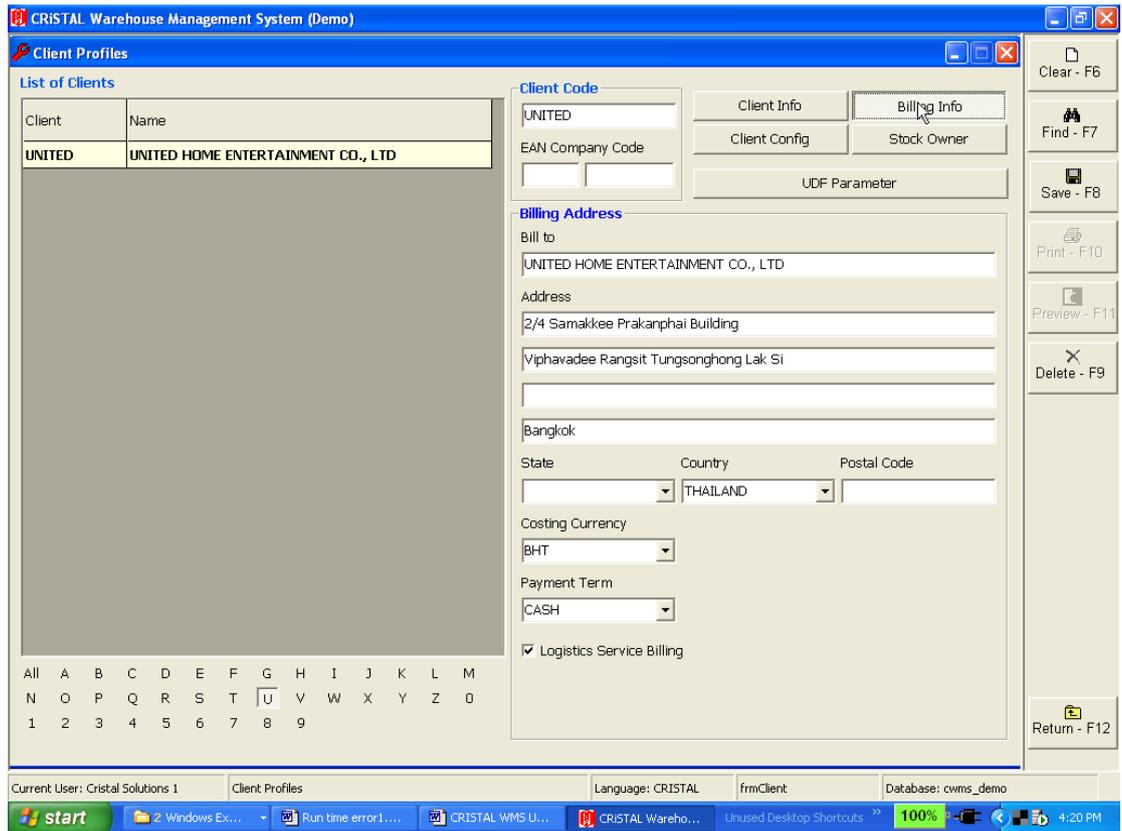
Incoming Shipment: None | Check In | Putaway | IS []

Outgoing Shipment: None | Picked | Despatch | OS []

Current User: Cristal Solutions 1 | Client Profiles | Language: CRISTAL | frmClient | Database: cwms_demo

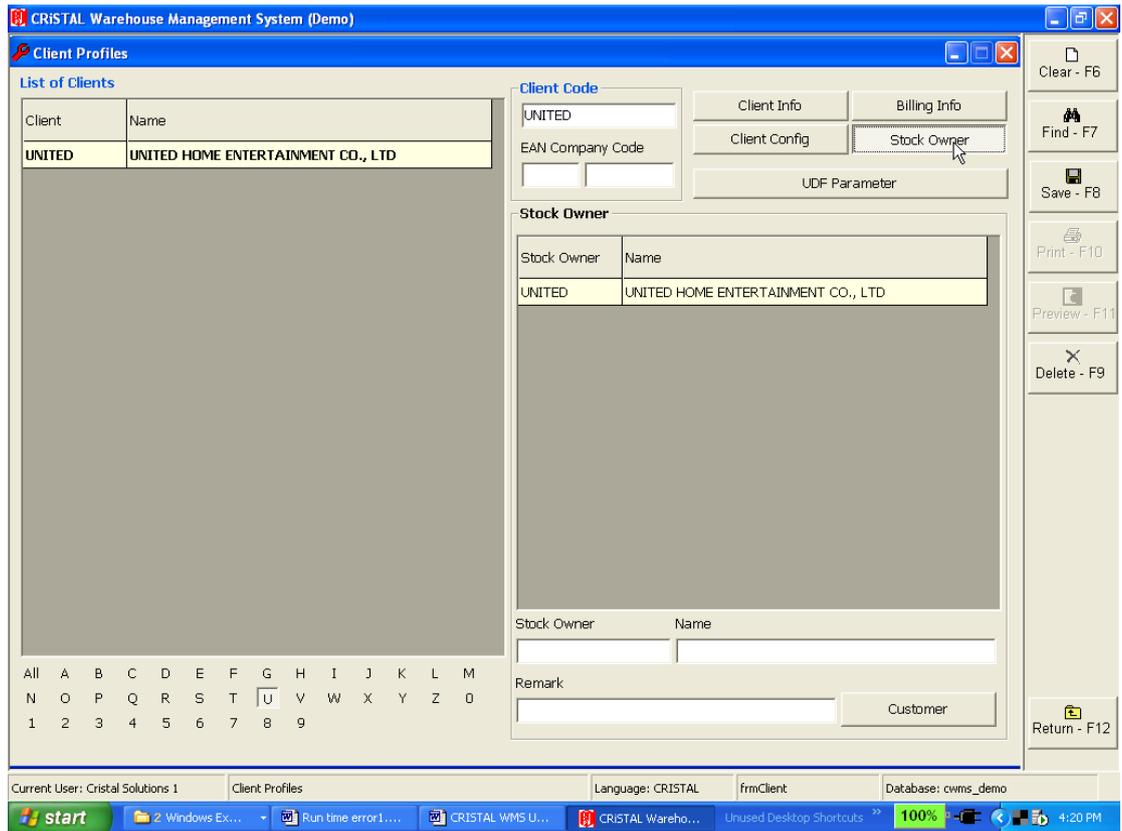
1. Select the RF Putaway Method, Pick Method, Pick Pack First, Pallet Sequence, Receipt Control and Sales Order Control.
2. For the rest of the config, tick according to how this client shall be managed.

In Billing Info,



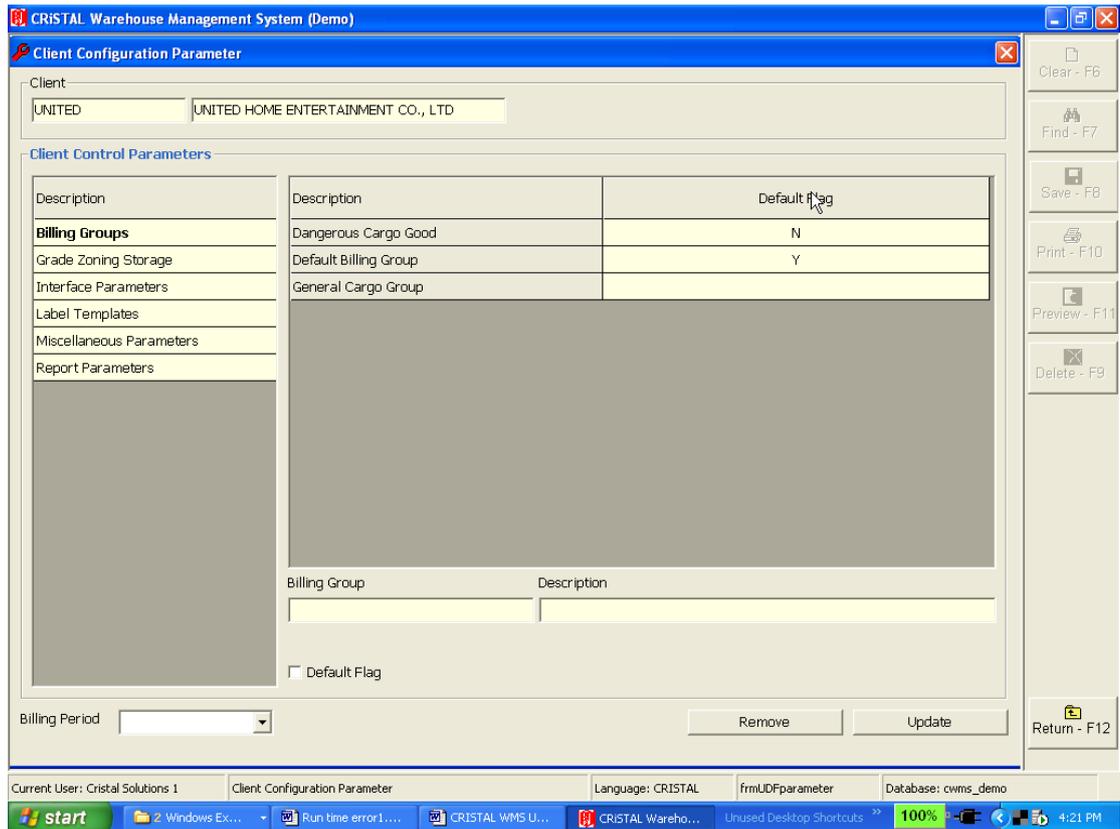
1. Enter the Billing Address whereby invoices by the user shall be billed to for this client.

In Stock Owner,



1. Create the list of Stock Owner by creating the Stock Owner code, Name.

User can proceed to Define UDF Parameter value (User Defined Field).



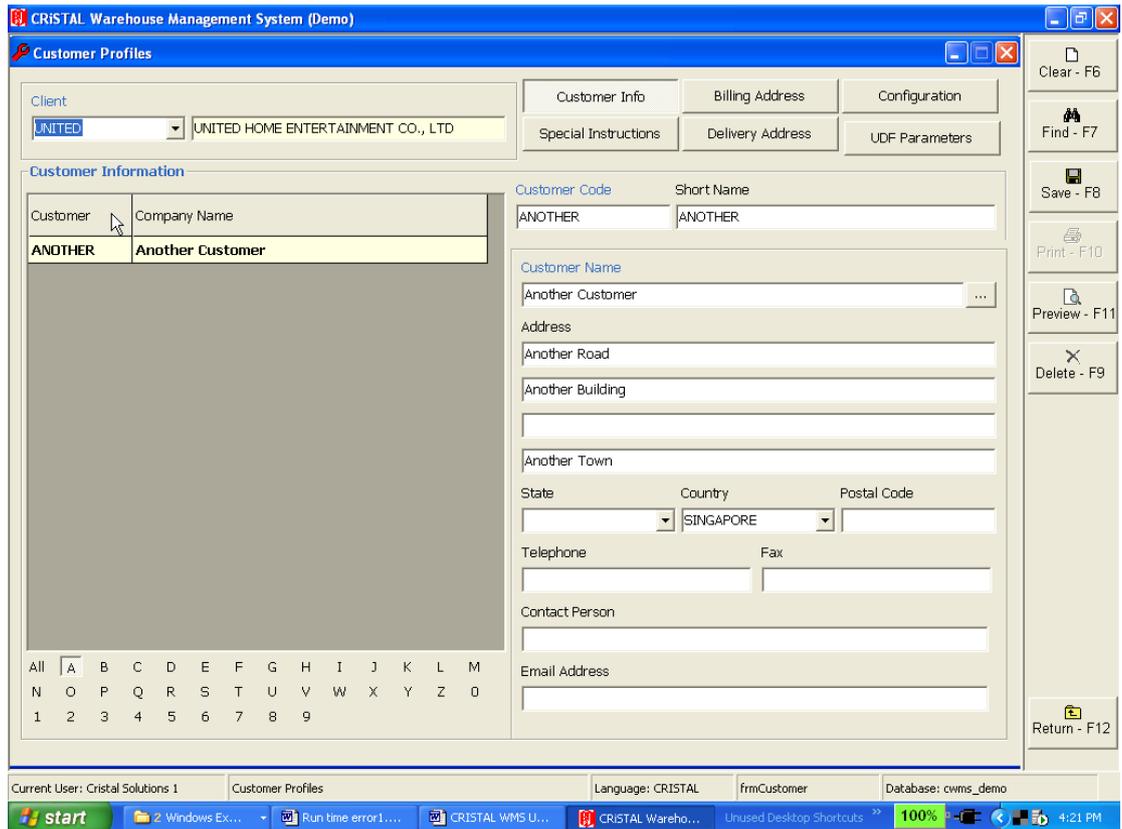
1. Click UDF Parameter. The left column displays the defaulted parameter header.
2. Select the Client Control Parameter and the right display the description.

Enter the Parameter Value and click Update (or Remove) accordingly.

8.1.2. Customer Profiles

Customer Profiles belongs the to customer(s) of the client whereby, goods of the client could be deliver to these customers.

The left column displays the list of customer accordingly to the alpha-numeric selection. On the right, it display according to the 6 tabs available. They are Customer Info, Billing Address, Configuration, Special Instruction, Delivery Address and UDF Parameter.

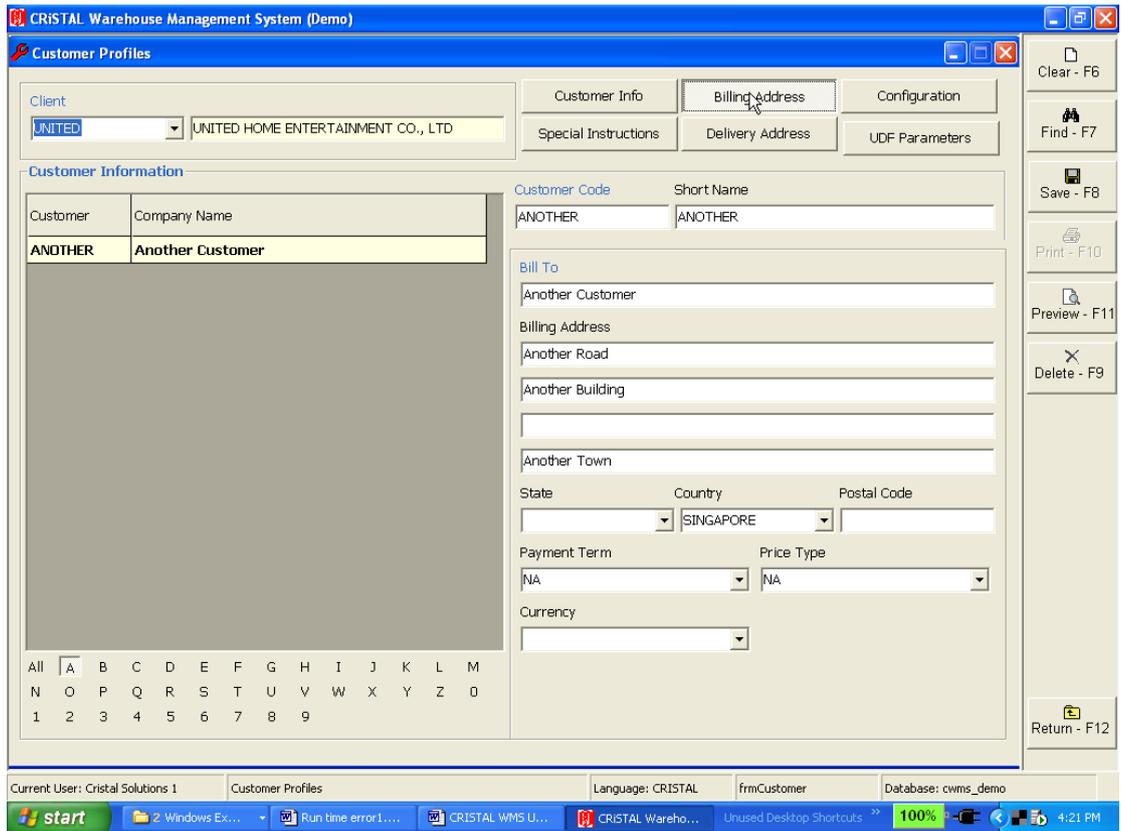


STEPS:

In Customer Info,

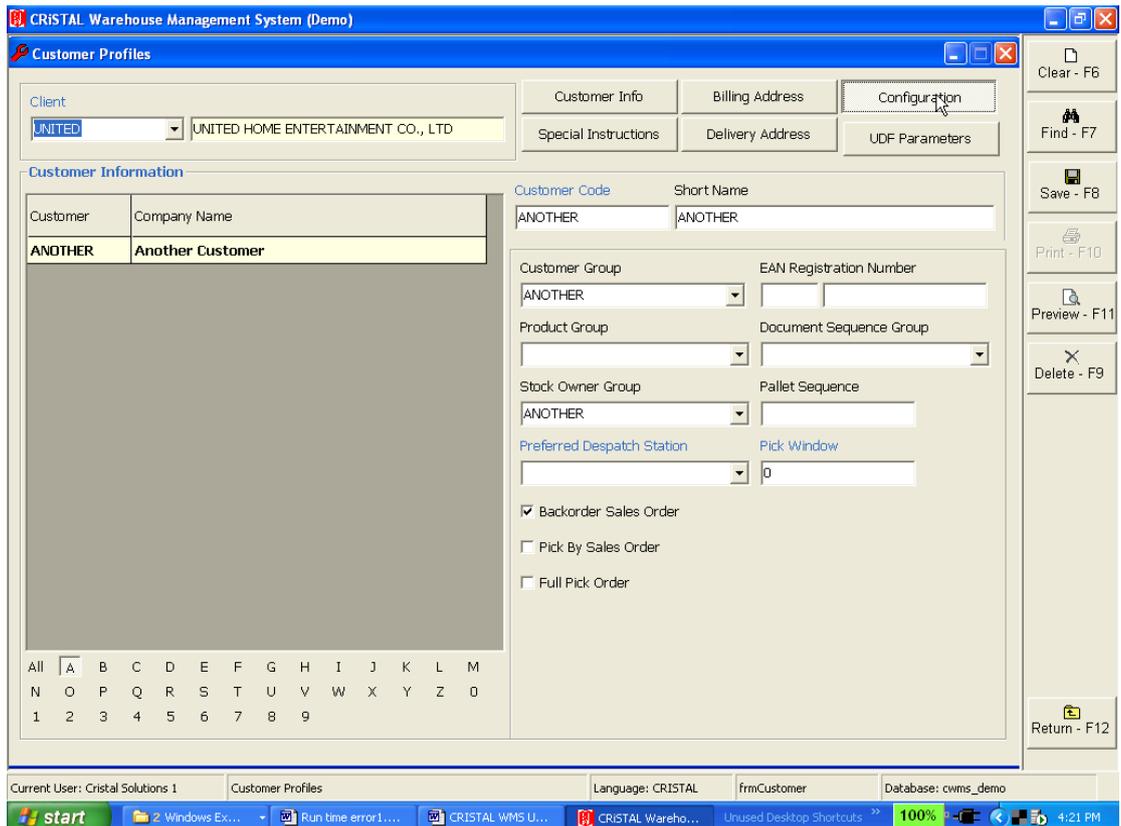
1. Click Customer Profiles under the Client Entity sub module
2. Select the Client.
3. Create Customer Code and Name.
4. Fill other relevant information
5. Click Save-F8 to create new customer

In Billing Address,



1. Enter the billing address of which billing (if any) shall be reflected.

In Configuration,



1. Configure the necessary set up for this customer

In Delivery,

The screenshot shows the 'Customer Profiles' window in the CRISTAL Warehouse Management System. The 'Delivery Address' tab is active. The form includes a 'Client' dropdown set to 'UNITED' and a text field for 'UNITED HOME ENTERTAINMENT CO., LTD'. A table on the left lists delivery codes and company names. The main form fields include 'Delivery Code' (ANOTHER), 'Address To' (Another Customer), 'Address' (Another Road), 'Another Building', 'Another Town', 'State' (SINGAPORE), 'Country' (SINGAPORE), 'Postal Code', 'Telephone', 'Fax', 'Attention', 'Email Address', 'Map Filename', and 'Instruction'. A 'View' button is next to the 'Map Filename' field. The Windows taskbar at the bottom shows the system time as 4:22 PM.

1. Enter the delivery address of this customer. The same address shall be reflected in Sales Order when customer is selected.

8.1.3. Staff Profiles

Under Staff Profiles, it keeps the records of all staffs particulars.

CRISTAL Warehouse Management System (Demo)

Staff Profiles

Company: CSPL | CRISTAL Solutions Pte Ltd

Employee Code	NRIC / Passport	Name
---------------	-----------------	------

Staff Information

Staff Code: [] NRIC / Passport No: [] Status: []

Name: []

Header | Job Data | Miscellaenous

Address

Street: []

State: [] Country: [] Postal Code: []

Date of Birth: 2 / 1 /2005 Telephone - Res: [] Telephone Office: []

Commence Date: 2 / 1 /2005 Mobile: [] Fax Number: []

Email Address: []

Clear - F6
Find - F7
Save - F8
Print - F10
Preview - F11
Delete - F9
Return - F12

Current User: Cristal Solutions 1 | Staff Profiles | Language: CRISTAL | frmStaff | Database: cwms_demo

STEPS:

1. Enter all relevant fields and click Save-F8 to create new staff data.

8.1.4. Supplier Profiles

In Supplier Profiles, it allows user to create suppliers essentially required for creating of Purchase order in view of later receiving of stocks.

CRISTAL Warehouse Management System (Demo)

Supplier Profiles

Client: UNITED | UNITED HOME ENTERTAINMENT CO., LTD

Supplier Code: | Status: APPROVED

Address Configuration

Supplier Information

Supplier Name: |

Address: |

State: | Country: | Postal Code: |

Telephone: | Fax Number: |

Contact Person: |

Email: |

Current User: Cristal Solutions 1 | Supplier Profiles | Language: CRISTAL | frmSupplier | Database: cwms_demo

STEPS:

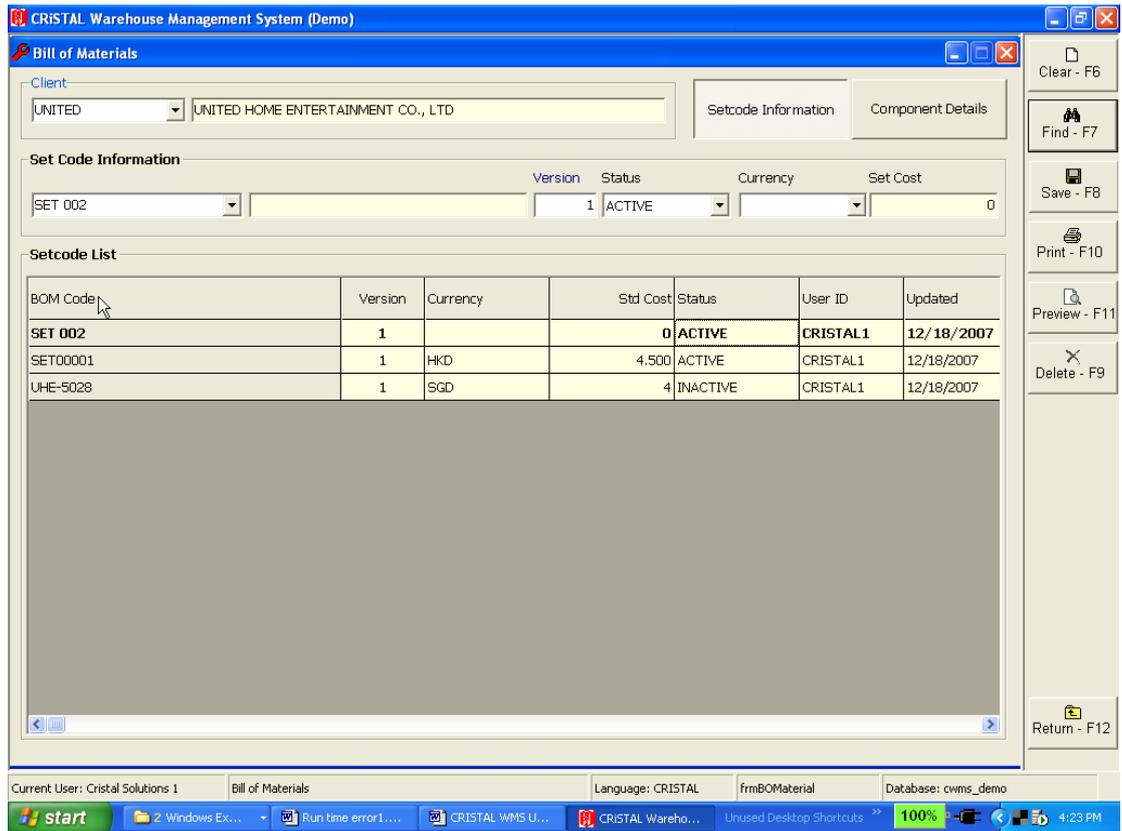
1. Click Supplier Profiles under Client Entities sub-module.
2. Select Client whereby the supplier is related to
3. Under the Address tab, enter Supplier Code and Supplier Information.
4. Click Save-F8 to create supplier into the system.

8.2. Products

Under Products module, the functions here allow the user to configure product related set up in CRiSTAL WMS.

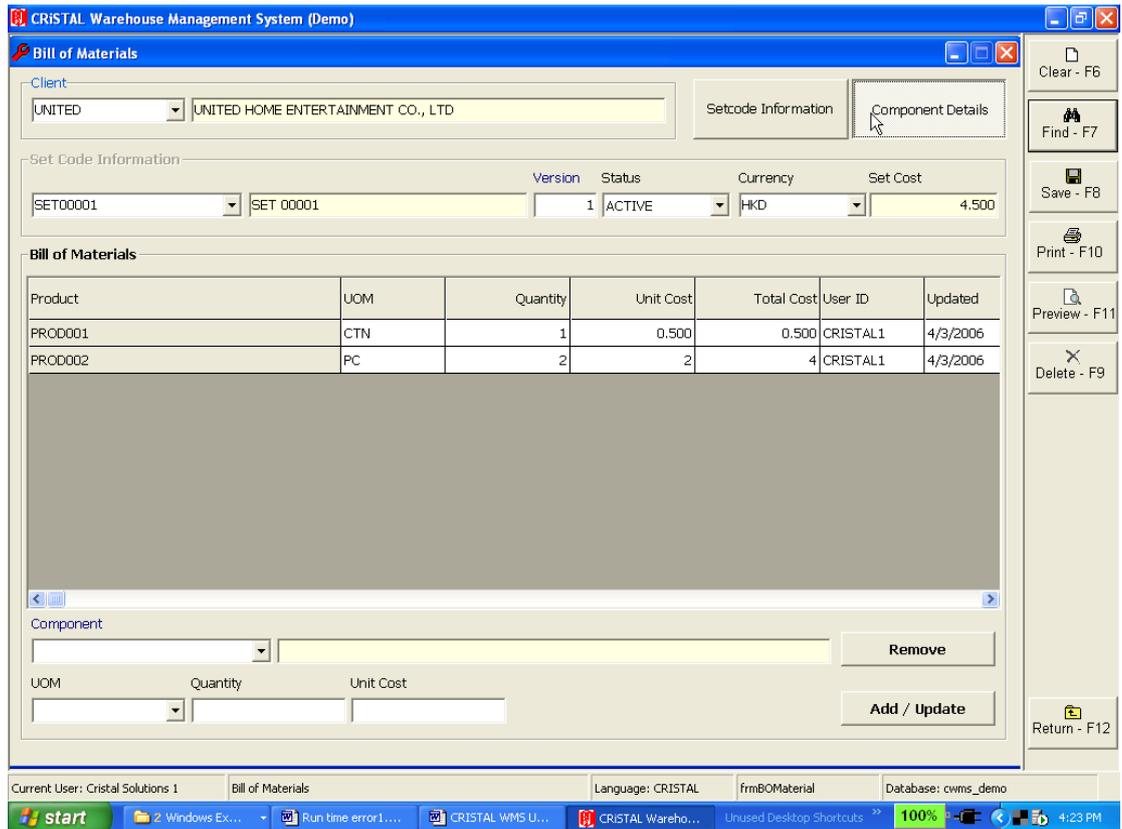
8.2.1. Bill of Materials

Bill of Materials allows user to set BOM relationship between the “parent” product to its “children” items. By doing so, it allows to system to identify the “parent” BOM while picking is done on the “children” items only.



STEPS:

1. Click Bill of Materials under the Product sub module.
2. Select the Client
3. Under the Setcode Information, enter the Set Code Information, Version and Status. Click Save-F8. System acknowledges creation.



4. Go to Component Details, select Component using the drop down bar. Component is also the Product of the client.
5. Enter Quantity of this component, click Add/Update.
6. Repeat step 4 and 5 until BOM setup completes.

8.2.2. Customer Item Codes

Customer Item Codes allows user to create the client's customer's item code and match to that of the client's product code. This facilitates identification by the customer when delivery is made to them by the client.

CRISTAL Warehouse Management System (Demo)

Customer Item Codes

Client: UNITED Customer: UNITED HOME ENTERTAINMENT CO., LTD

Item Code	Description	Customer Item Code	Customer Item Description	Currer
-----------	-------------	--------------------	---------------------------	--------

Item Code: Currency: Unit Price: Customer Item Code: QA Flag: Next Item

Current User: Cristal Solutions 1 Customer Item Codes Language: CRISTAL frmProductPartner Database: cwms_demo

STEPS:

1. Click Customer Item Codes under Product sub-module.
2. Select Client and Customer.
3. Select Item Code of the Client using the drop down bar
4. Enter the Customer Item Code and Description.
5. Click Save-F8 to add to the list.
6. Next Item is used to add new Item Code of the client.

8.2.3. Product/Item Definition

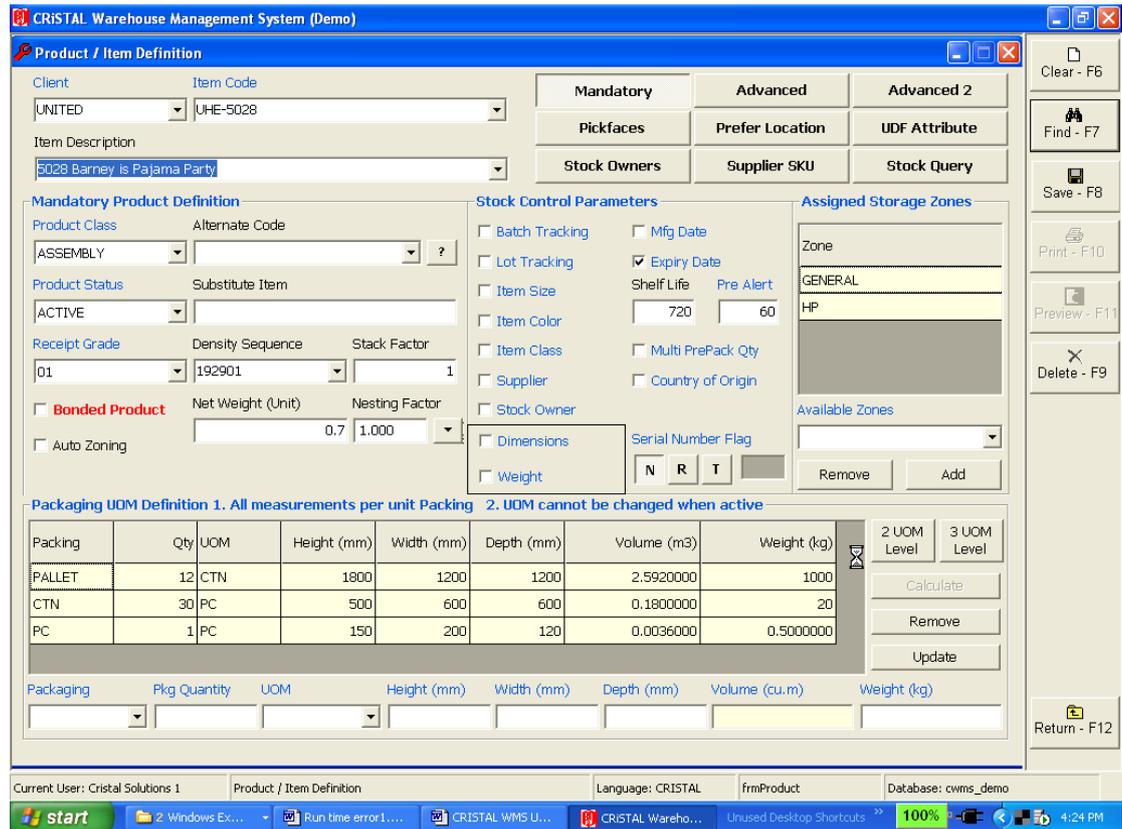
Product/Item Definition is one of the most important modules in CRiSTAL WMS. This set up provides the dynamism of product management.

Product definition in a Warehouse Management System requires much more details than that in an inventory management system.

In CRiSTAL WMS, apart from the usual data required by inventory management system, addition information such as Storage Zones and Packing Definition or configuration are also needed together with the stock control parameter such as Batch #, Expiry Date...

The Product Definition GUI consists of 9 tabs containing Mandatory, Advanced, Advanced 2, Pickfaces, Prefer Location, UDF Attribute, Stock

Owners, Supplier SKU and Stock Query of which Mandatory tab is the most important page.



STEPS:

1. Click Product/Item Definition under the Product sub-module.
 - Under the mandatory tab,
 - a. Select the Client and enter the Product code and Description
 - b. Specify the Default Product Grade
 - i. This is a mandatory field and is used in the Check-In and Quick Receipt function
 - c. Set the “Prod Status” to ACTIVE
 - d. Tick “Bonded Goods Indicator” if product is a bonded goods
 - i. Ensure that there is a corresponding bonded zone in warehouse as the WMS will look for bonded zone to putaway the item
 - e. Specify the Storage Zones
 - i. If the product is flagged as a bonded goods, the zones assigned must also be a Bonded zone
 - ii. If there is no storage zone that is set up as a Bonded Zone, item that is specified as to be stored in Bonded Zone will NOT be putaway.
 - f. Tick the stock control parameters required in the “Required Fields”

- i. Those ticked signify that data is required during receiving and that stock for picking will be allocated accordingly
- g. Define the Packaging UOM Definition.
 - i. Start with the UOM of “PALLET” which is mandatory requirement, for example

Packing	Qty	Unit	Height (mm)	Width (mm)	Depth (mm)	Volume(cu. m)	Weight (kg)
PALLET	45	CA	700	1200	1200	1.008	900
CA	5000	PC	140	220	300	.009	20
PC	1	EA	3	1	1	.	.001

- ii. The relation of the UOM levels must be hierarchical
- iii. The dimension and weight defined for each line is that of the Packing, not Unit
- iv. Although Packing definition for Qty of 1 is not mandatory, it is good practice defined it too
 - This will enable report to be formatted to report on actual volume and weight and when billing of services and storage is based on net volume and weight

Under the Advanced tab, fill the required fields such as

- a. Specify the Billing Group if applicable
- b. Select the billing group the product to be charged with and the Unit of Charge
 - i. This must be first defined under Billing options
- c. Specify Product Group, Category, Sub Category and additional sub-categories if applicable

- ii. These parameters must first be defined under Warehouse Parameters Maintenance
2. Under the Pickfaces tab, select the Product Pickfaces Definition if pick face operation is required for this product.

Product / Item Definition

Client: UNITED | Item Code: UHE-5028

Item Description: 5028 Barney Is Pajama Party

Pickface Locations

Warehouse	Location	Pick Unit	Replenish Qty	Replenish Level	Grade
WHSE1	AB050101	PC	1000	100	01
WHSE1	AB030102	PC	300	20	01
WHSE1	AB060101	PC	300	30	01

Preferred Storage Locations

Warehouse	Location
-----------	----------

Warehouse: REDINE | Location: | Grade: | Pick Unit: PC | Replenish Quantity: | Replenish Level: |

Current User: Cristal Solutions 1 | Product / Item Definition | Language: CRISTAL | frmProduct | Database: cwms_demo

- a. Note: *Pickfaces are not appropriate for product have stock ownership*
- b. Click the  button at the right of Warehouse / Location and select the location to be assigned
 - i. Select the Pick Unit
 - ii. Specify the Replenishment Quantity
 - iii. Specify the Replenishment Level (at which the replenishment is triggered)
 - iv. Specify the Grade that the pickface is to hold
 - v. Click Save-F8 to add to list.

8.2.4. Product Price Maintenance

The Product Price Maintenance provides a quick update to the price information for the product. This is useful in the valuation of the stock during stock taking.

The screenshot displays the 'Product Price Maintenance' dialog box within the CRISTAL Warehouse Management System. The dialog box is titled 'Product Price Maintenance' and contains the following sections:

- Client:** A dropdown menu set to 'UNITED' and a text field containing 'UNITED HOME ENTERTAINMENT CO., LTD'.
- Product Code:** A dropdown menu and a text field.
- Product Description:** A text field.
- Cost Prices:** Three columns: 'Ex-Work', 'FOB', and 'Landed', each with a text input field.
- Sales Prices:** Three columns: 'Dealer', 'Export', and 'Retail', each with a text input field.
- Product Grouping:** A grid of dropdown menus for 'Brand', 'Sub Category', 'Sub Category 3', 'Product Group', 'Sub Category 1', 'Sub Category 4', 'Category', 'Sub Category 2', and 'Sub Category 5'.

The background application window shows a navigation tree on the left with categories like 'Client Entities', 'Products', 'Billing', 'Warehouse', and 'System'. The status bar at the bottom indicates the current user is 'Cristal Solutions 1', the active form is 'Product Price Maintenance', the language is 'CRISTAL', and the database is 'cwms_demo'.

STEPS:

1. Click Product Price Maintenance
2. Select Client and Product Code.
3. Enter price information and click Save-F8.

8.2.5. QA Specification Setup

QA Specification setup creates the QA requirement of the product during inbound.

The screenshot displays the 'QA Specification Setup' window in the CRISTAL Warehouse Management System. The window title is 'CRISTAL Warehouse Management System (Demo)'. The main form contains the following fields and controls:

- Client:** A dropdown menu showing 'UNITED' and a text field containing 'UNITED HOME ENTERTAINMENT CO., LTD'.
- Reference:** A dropdown menu.
- Version:** A dropdown menu.
- Status:** A dropdown menu showing 'DATA ENTRY' and an 'Approve' button.
- Product Code:** A dropdown menu.
- Supplier:** A dropdown menu.
- Valid From:** A date field showing '12/26/2007'.
- Valid To:** A date field showing '12/26/2007'.
- Approved Date:** A date field.
- Product Description:** A text area.
- Remark:** A text area.
- Sampling Quantity:** A text field.
- Drawing Filename:** A text field.
- Measurement:** A button.
- Standard:** A button.

Below the main form is the 'Inspection Measurement Specification' section, which contains a table with the following columns: Line, QA Code, Description, Equipment, Specification, Value From, and Value To. The table is currently empty.

At the bottom of the window, there are additional fields for 'Inspection Code', 'Inspection Equipment', 'Spec Description', 'Value From', and 'Value To'.

The window also features a vertical toolbar on the right side with the following buttons: Clear - F6, Find - F7, Save - F8, Print - F10, Preview - F11, and Delete - F9. A 'Return - F12' button is located at the bottom right of the window.

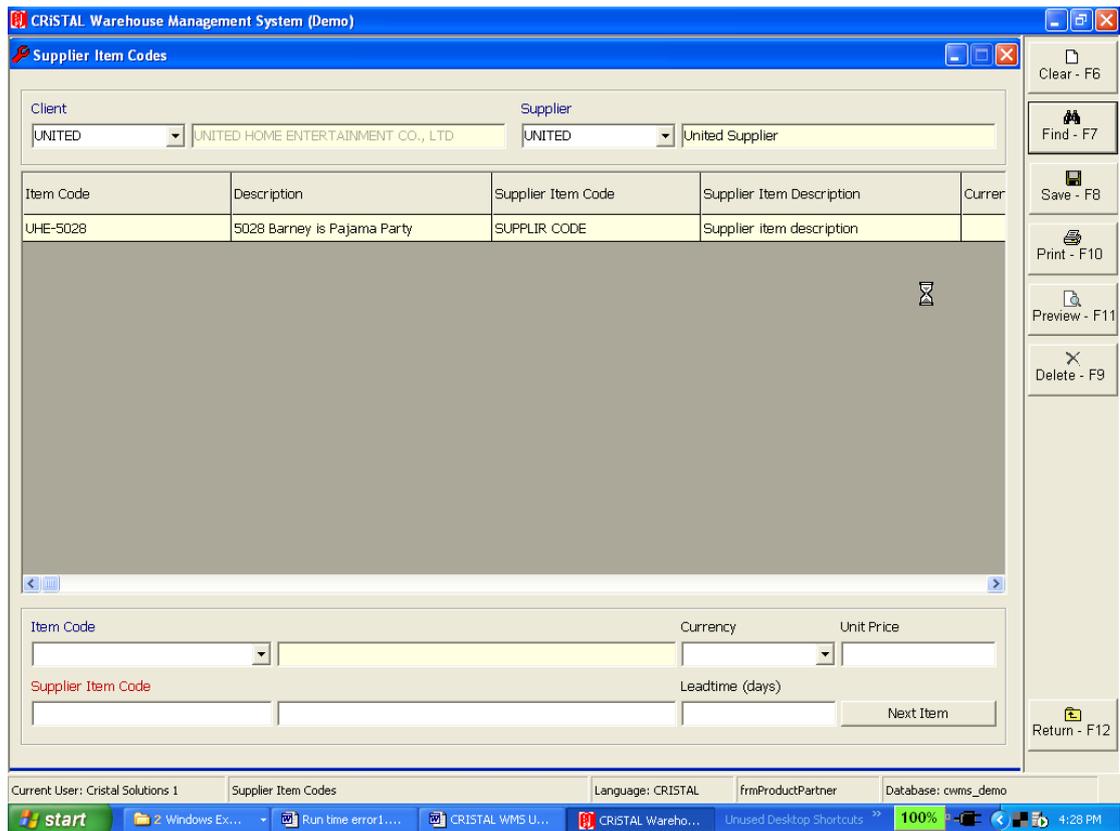
The taskbar at the bottom of the screen shows the current user as 'Cristal Solutions 1', the active window as 'QA Specification Setup', and the language as 'CRISTAL'. The system clock shows '4:27 PM'.

STEPS:

1. Click QA Specification Setup under the Product sub-module
2. Select Client, Product Code, Sampling Quantity and Reference.
3. Click Approve. System acknowledges.
4. To close the QA specification setup, click Approve again to close and change status.

8.2.6. Supplier Item Code

Supplier Item Code works in the same way as the Customer Item Code. In Supplier Item Code, it apply to the inbound where receipt has to tally with the purchase order (to the supplier)

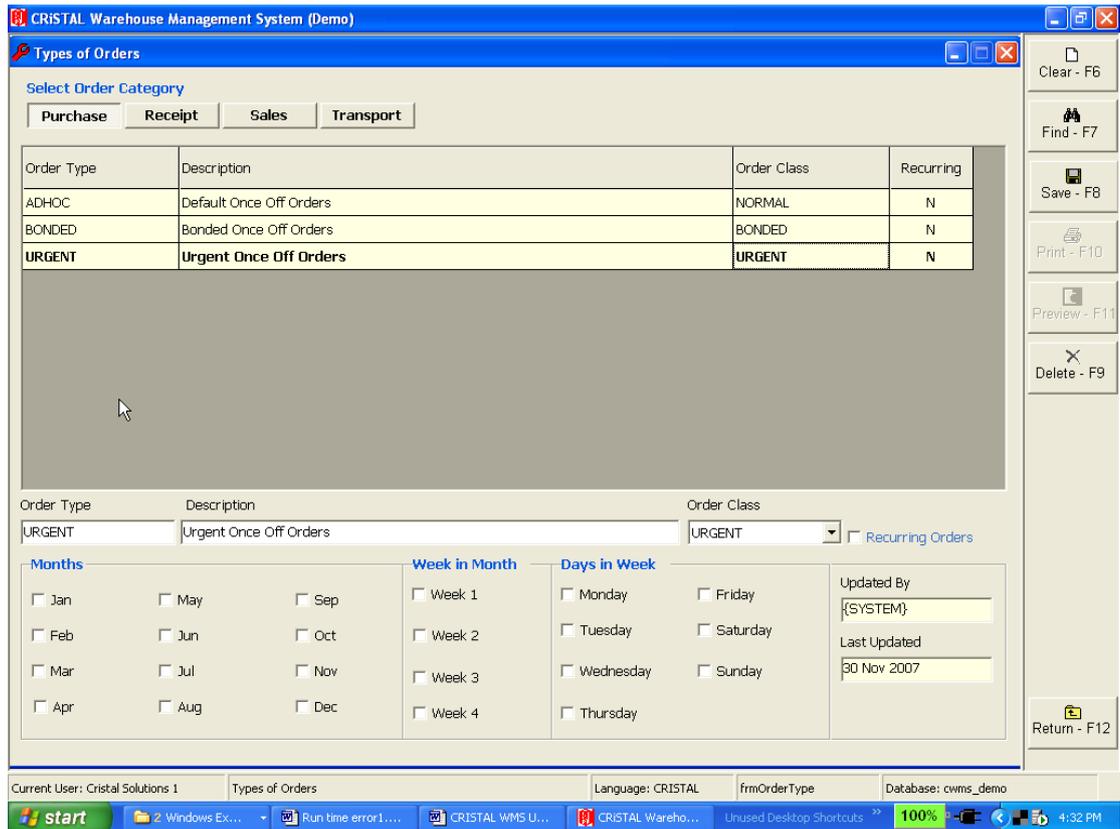


STEPS:

1. Click Supplier Item Code under the Product sub-module
2. Select Client and its Supplier
3. Select the Item Code, here referring to the Client's product
4. Create Supplier Item Code, its description.
5. Click Save-F8.

8.2.7. Types of Orders

Order type can be Purchase, Receipt, Sales or Transport. It is made available to help user to create ordering pattern or to re-generate itself as setup – weekly, fortnightly...



STEPS:

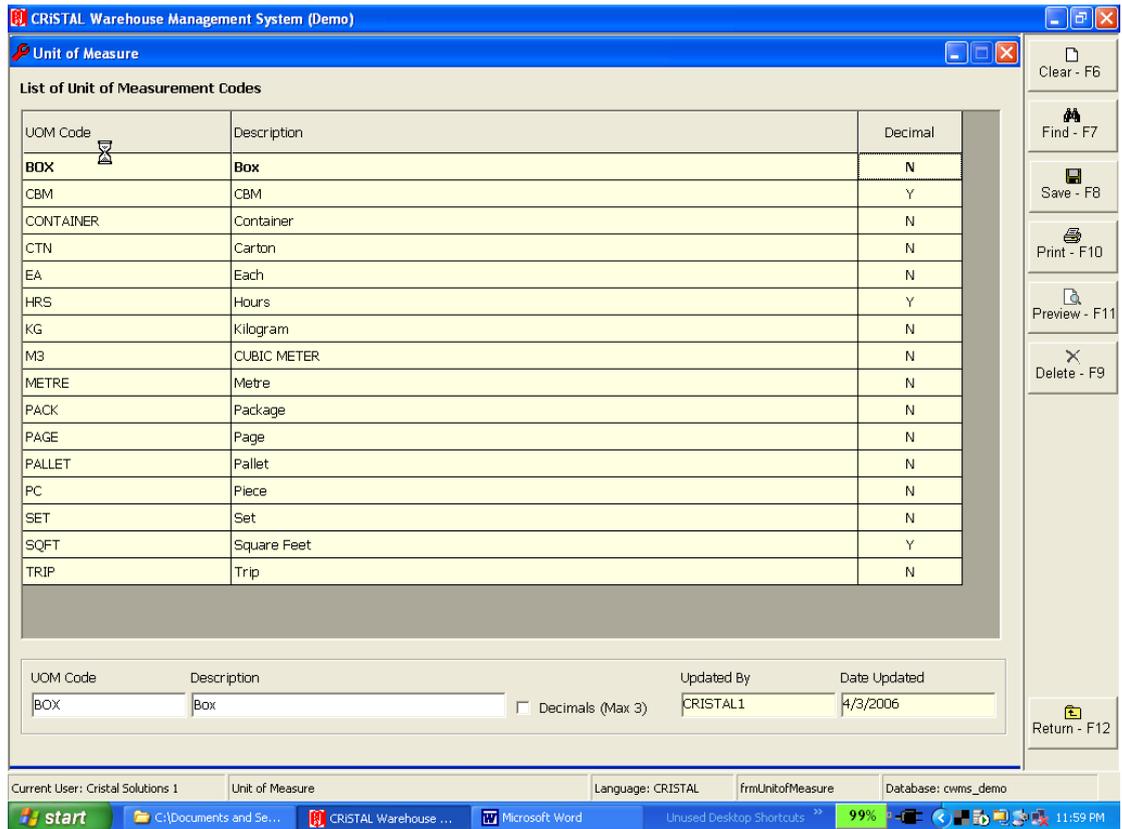
1. Select the Order Category, i.e. Purchase, Receipt, Sales or Transport.
2. Create Order Type, Description, Order Class and tick Recurring Order if it is a repeating order.
 - a. If it is a recurring order, Tick the appropriate checkboxes in “Month”, “Week in Month” or “Day in Week”.
 - i. For example, if an order is to be generated on Monday every alternate week of the month, tick checkboxes “Monday”, “Week1”, “Week 3”



2. Click Save

8.2.8. Unit of Measure

This function is for adding and maintenance of Unit of Measure (UOM)



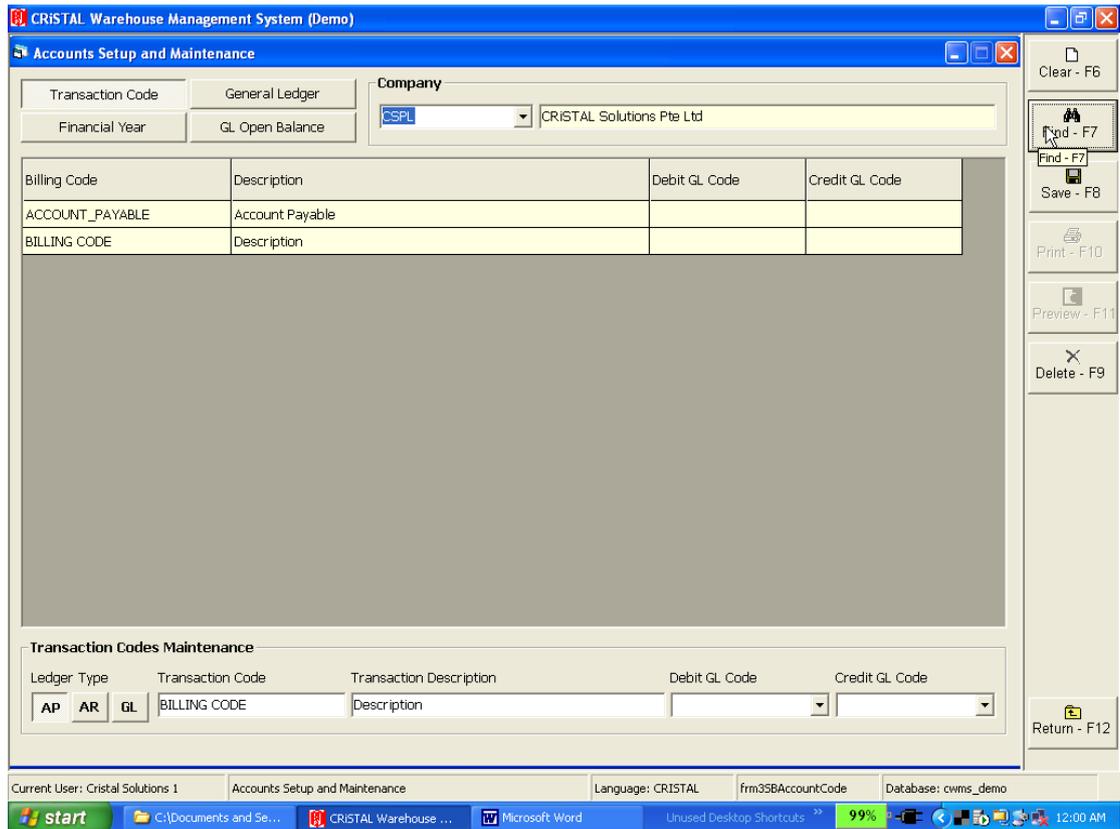
STEPS:

1. Click Unit of Measure under the Product sub-module.
2. Enter the UOM Code and Description
3. Tick Decimal if required.
4. Click Save

8.3. Billing

8.3.1. Accounts Setup and Maintenance

In Accounts Setup and Maintenance, this function allows user to create Billing code, Account Code, Financial Year Code and GL Account Code.



STEPS:

1. Click Accounts Setup and Maintenance under the Billing sub-module.
2. Select Company.
3. Under the Transaction Code, use has the choice of Ledger Type (AP, AR or GL).
 - a. Select the ledger type and create Transaction Code, Description
 - b. Click Save-F8
5. The step to create code for General Ledger, Financial Year and GL Open Balance is similar to Transaction Code.

8.3.2. Bank Account Maintenance

In Bank Account Maintenance, user creates the banking information of the company selected.

CRISTAL Warehouse Management System (Demo)

Bank Account Maintenance

Company Information

Company

CSPL CRISTAL Solutions Pte Ltd

Bank	Name	Account Number	Account Type	Balance
------	------	----------------	--------------	---------

Bank Code: POSB Name: Post Office Saving Bank Account Number: 012-123456-7 Account Type: Current Default Account

Clear - F6
Find - F7
Save - F8
Print - F10
Preview - F11
Delete - F9
Return - F12

Current User: Cristal Solutions 1 Bank Account Maintenance Language: CRISTAL frm3SBBankSetup Database: cwms_demo

STEPS:

1. Click Bank Account Maintenance under the Billing sub-module
2. Select Company
3. Create Bank Code, Description, Account Number and Account Type.
4. Click Save-F8

8.3.3. Billable Services Setup

Billable Services Setup is the creation of all billable services that the user charges to their clients. CRiSTAL WMS also capitalise this creation to act as Quotation whereby the user offers to their client. As a Quotation, the status should remain as Data Entry until their services become chargeable, hence convert into Active.

To set up the computation for a client, a quotation needs to be created.

CRISTAL Warehouse Management System (Demo)

Billable Services Setup

Company: CSPL, CRISTAL Solutions Pte Ltd, Quotation Reference: 00000006, Date: 7/4/2007

Client Information

Client: UNITED, UNITED HOME ENTERTAINMENT CO., LTD, Currency: SGD, Valid Till Date: 12/4/2007, Status: ACTIVE

Street: 2/4 Samakkee Prakanphai Building, Minimum Total: 490, Payment Term: CASH

Country: THAILAND, Postal Code: 10210

Telephone: 662-9550561-3, Fax Number: 662-9550564

Copy Quotation Lines

Source Company, Source Quotation Ref, Copy Details from Source Quotation, Activate Quotation

Current User: Cristal Solutions 1, Billable Services Setup, Language: CRISTAL, frm3SBBillingSetup, Database: cwms_demo

STEPS:

1. Click Billable Service Setup under the Billing sub-module
2. Specify the company that the quotation is prepared under
3. Select the client, change any of the data if required
4. Select the Valid To date
5. Select the currency
6. Select the Payment Term
7. Click Save
8. A quotation reference will be given by the system.

We are now ready to prepare the computation details.

9. Click Details tab.

Billable Services Setup

Company: CSPL | Quotation Reference: 00000006 | Date: 7/4/2007

Line #	Billing Group	Bill Code	Description	Billing Period	Billing Method	UOM	Service Type
1	DEFAULT	HANDLING IN	Handling In	WEEKLY	VOLUME	M3	SYSTEM
2	DEFAULT	HANDLING OUT	Handling Out	WEEKLY	VOLUME	M3	SYSTEM
3	DEFAULT	STORAGE_AMBIANCE	Storage Ambiance	DAILY	LOOSE		STORAGE
4	DEFAULT	OT_WEEKEND	Overtime Weekend	DAILY	WHOLE		SYSTEM
5	DEFAULT	OT_WEEKDAY	Overtime Weekdays	DAILY	LOOSE		SYSTEM
6	DEFAULT	PRICE_TAG	Price Tag	WEEKLY	ORDERLINE	LINE	SYSTEM

Service Detail:

Trx Date Type: ACTUAL | Min Charge Option: | Minimum Charge: |

Billing Period: | Billing Method: UNIT | UOM: BOX | Calculation Method: |

Warehouse Task: | Rate Method: EFFECTIVE | Free Days Option: NA | Bill Factor: 1 | Last Computation: 12/27/2007 | Next Computation: |

10. To define the billable services and computation method, select the Service Type

1. Adhoc services
 - a. These services that occurred on an adhoc or on request basis. This needs to be recorded as and when it occurred.
2. System derived services
 - a. Services that can be derived by associating to 1 more of the Warehouse Tasks
3. Storage services

11. To define an Adhoc service, click the 'Adhoc' button under Service Type. Fields that are not required are greyed off.

1. Leave Line No blank for new service else select Line by click the required row in the grid box

12. Select the Billing Group that the service is to be grouped under

13. Select the Service Billing Code

- a. This must be created first under User Defined Parameters
- b. The system allows user to define the Billing Code. The onus is no the user to define them intelligently such that it is meaningful to other user.

2. Select the UOM that the services is to be charged
14. Specify the Minimum Charge if applicable
15. Specify Billing Factor
 - a. Leave it as 1
 - b. This is currently applicable to Storage service when the calculation is in Volume, Weight or Revenue Ton
16. Select the Free Period method and specify the number of days free
 - c. Leave it as 'NA' as it is currently not activated.
 - d. Leave the Free Days blank
17. The Next Computation is not applicable for Adhoc services
 1. Select Rate Setup

The screenshot shows the 'Billing - Billable Service Setup' window. The 'Activity Types' table is as follows:

Line #	Billing Group	Bill Code	Description	Billing Period	Billing Method	UOM	Service Type	Ca
1	GENERAL	CC_DOC	Documentation Handling Fee		UNIT	BAG	ADHOC	
2	GENERAL	ACSTORAGE	Air-conditioned Storage - Euro Pallet	MONTHLY	LOOSE		STORAGE	AC
3	GENERAL	CH_UNSTUFG	Container Handling - Unstuffing	WEEKLY	LOOSE		SYSTEM	SEI

The 'Rate Setup' section shows the following values:

- Billing Period: UNIT
- Billing Method: UNIT
- Calculation Method: (blank)
- Warehouse Task: (blank)
- UOM: BAG
- Minimum Charge: (blank)
- Billing Factor: 1
- Free Days Method: NA
- Last Computation: (blank)
- Next Computation: 03/10/2003

2. Specify the Tier Greater Than
 3. Specify the Tier To
 18. Specify the Unit Rate
 - e. Leave Fixed Amount as 0 as it is not activated.
 19. Click Add/Update Activity Tier
- Repeat steps for next Adhoc service.

CRISTAL Services Billing Module

System Edit Process Manage Reports Admin Add-On

Billing - Billable Service Setup

Company: CRISTAL | Quotation Reference: 00000005 | Status: DATA ENTRY

Line #	Billing Group	Bill Code	Description	Billing Period	Billing Method	UOM	Se
1	GENERAL	CC_DOC	Documentation Handling Fee		UNIT	BAG	AC
2	GENERAL	ACSTORAGE_IP	Air-conditioned Storage - Industrial P	MONTHLY	LOOSE		ST
3	GENERAL	CH_UNSTUFG	Container Handling - Unstuffing	WEEKLY	LOOSE		SY

Service Type: Adhoc | System | Storage | Line No: 2 | Billing Group: GENERAL | Service Billing Code: ACSTORAGE_IP

Tier From	Tier To	Unit Rate	Fixed Amount
0.000	99,999,999.000	2.31	0.00

Current User: Cristal Solutions 1 | Billing - Billable Service Setup | Database: cristalwms_klip

Defining System Derived Services

To define a System derived service, click the 'System' button under Service Type. Fields that are not required are greyed off.

1. Leave Line No blank for new service else select Line by click the required row in the grid box
2. Select the Billing Group that the service is to be grouped under
3. Select the Service Billing Code
 - f. This must be created first under User Defined Parameters
 - g. The system allows user to define the Billing Code. The onus is no the user to define them intelligently such that it is meaningful to other user.
4. Select the Billing Period
5. Select the Billing Method
6. Select the Calculation Method
 - a. Only appropriate method will be available for selection
7. Specify the Warehouse Task to be associated
8. Select the UOM that the services is to be charged, if available or applicable
9. Specify the Minimum Charge if applicable
10. Specify Billing Factor

- h. Leave it as 1 or redefine as appropriate
 - i. Never specify as ZERO or NEGATIVE as then the service would free or the client will be paid instead
 - i. This is currently applicable when the Billing Method is in Volume, Weight or Revenue Ton
- 11. Select the Free Period method and specify the number of days free
 - j. Leave it as 'NA' as it is currently not activated.
 - k. Leave the Free Days blank
- 12. Specified the Next Computation or commencement of the computation
- 13. Select Rate Setup
- 14. Specify the Tier Greater Than
- 15. Specify the Tier To
- 16. Specify the Unit Rate
 - a. Leave Fixed Amount as 0 as it is not activated.
- 17. Click Add/Update Activity Tier
- 18. Repeat 1 to 17 for next System derived service.

CRISTAL Services Billing Module
System Edit Process Manage Reports Admin Add-On

Billing - Billable Service Setup

Company: CRISTAL | Quotation Reference: 00000005 | Status: DATA ENTRY

Line #	Billing Group	Bill Code	Description	Billing Period	Billing Method	UOM	Service Type	Ca
1	GENERAL	CC_DOC	Documentation Handling Fee		UNIT	BAG	ADHOC	
2	GENERAL	ACSTORAGE	Air-conditioned Storage - Euro Pallet	MONTHLY	LOOSE		STORAGE	AC
3	GENERAL	CH_UNSTUFG	Container Handling - Unstuffing	WEEKLY	LOOSE		SYSTEM	SEI

Service Type: Adhoc | System | Storage | Line No: 3 | Billing Group: GENERAL | Service Billing Code: CH_UNSTUFG

Bill Code Setup

Billing Period: WEEKLY | Billing Method: LOOSE | Calculation Method: SERVICE_LOOSE | Warehouse Task: CHECK IN

UOM: | Minimum Charge: 29 | Billing Factor: 1 | Free Days Method: NA | Last Computation: | Next Computation: 03/10/2003

Current User: Cristal Solutions 1 | Billing - Billable Service Setup | Database: cristallwms_klir

Defining Storage Services

To define a Storage derived service, click the 'System' button under Service Type. Fields that are not required are greyed off.

Only 1 Storage service should be defined per Billing Group unless specifically required. Otherwise the computation of Storage will be multiply by the number of Storage code defined

1. Leave Line No blank for new service else select Line by click the required row in the grid box
2. Select the Billing Group that the service is to be grouped under
3. Select the Service Billing Code
 - a. This must be created first under User Defined Parameters
 - b. The system allows user to define the Billing Code. The onus is no the user to define them intelligently such that it is meaningful to other user.
 - c. The onus is on the user to specify a storage billing code.
4. Select the Billing Period
5. Select the Billing Method
6. Select the Calculation Method
 - a. Only appropriate method will be available for selection
7. Select the UOM that the services is to be charged, if available or applicable
8. Specify the Minimum Charge if applicable

Billing - Billable Service Setup

Company: CRISTAL Solutions Pte Ltd | Quotation Reference: 00000005 | Status: DATA ENTRY

Line #	Billing Group	Bill Code	Description	Billing Period	Billing Method	UOM	Service Type	Ca
1	GENERAL	CC_DOC	Documentation Handling Fee		UNIT	BAG	ADHOC	
2	GENERAL	ACSTORAGE_	Air-conditioned Storage - Euro Pallet	MONTHLY	LOOSE		STORAGE	AC
3	GENERAL	CH_UNSTUFG	Container Handling - Unstuffing	WEEKLY	LOOSE		SYSTEM	SEI

Service Type: Adhoc | System | Storage | Line No: 2 | Billing Group: GENERAL | Service Billing Code: ACSTORAGE_EP

Bill Code Setup

Billing Period: MONTHLY | Billing Method: LOOSE | Calculation Method: ACCURRED_STORAGE_LOOSE | Warehouse Task: []

UOM: [] | Minimum Charge: 20 | Billing Factor: 1 | Free Days Method: N/A | Last Computation: [] | Next Computation: 03/10/2003

9. Specify Billing Factor
 - a. Leave it as 1 or redefine as appropriate
 - i. Never specify as ZERO or NEGATIVE as then the service would free or the client will be paid instead

- b. This is currently applicable when the Billing Method is in Volume, Weight or Revenue Ton
10. Select the Free Period method and specify the number of days free
 - a. Leave it as 'NA' as it is currently not activated.
 - b. Leave the Free Days blank
11. Specified the Next Computation or commencement of the computation
12. Select Rate Setup
13. Specify the Tier Greater Than
14. Specify the Tier To
15. Specify the Unit Rate
 - a. Leave Fixed Amount as 0 as it is not activated.
16. Click Add/Update Activity Tier
 - a. Repeat 12 to 16 if there is multi-tier
17. Repeat 1 to 16 for Storage of next Billing Group

Deletion of Details

To remove a billable code from a quotation, it is necessary to remove the Billable Service Rate. When the last range is removed the Billable Code will be removed from the quotation.

This is done by

1. Click the Billable Code row
2. Select Rate Setup
3. Click on the Billable Service Rate range
4. Click on the Remove Activity Tier
5. The Billable Service grid box will refresh and the Billable Service Rate will clear.
6. Select the Billable Code row again
7. Repeat 2 to 6 until all the rate ranges are removed.

Activate a Quotation

The background job scheduled in the MS SQL Server will process only 'ACTIVE' quotation. A quotation therefore must be activated once it is approved.

Only 1 quotation can be active at any one time.

Therefore, if there is an existing active quotation, it must be CLOSED before a new quotation can be activated.

Given the constraint, if there are 2 or more different rates to be charged, they are to be under different billing groups within the same quotation. This would

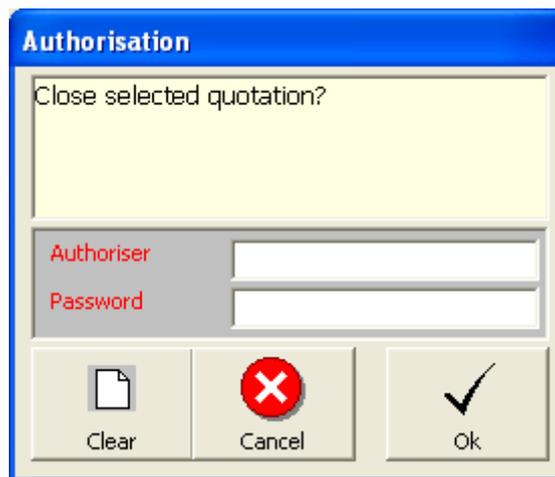
be applicable services that are product related – each product would have to be classified into different Billing Group.

On clicking of the Set Quotation to Active button, a pop-up window will prompt for authorisation. The quotation will be activated only if correction authorisation is entered.

Close Active Quotation

When an active quotation is no longer valid or replaced, it has to be closed. At any one time, only 1 quotation can be active.

On clicking of the Close Active Quotation button, a pop-up window will prompt for authorisation. The quotation will be closed only if correction authorisation is entered.



Copying Quotation

Given that an active quotation cannot be amended when there is a minor change to some of the rate, function is provided to facilitate user to copy an active quotation to a new quotation.

This allows amendment to be made in the new quotation. After which, the original quotation is closed and new quotation be activate.

8.3.4. Company Profile Maintenance

Company Profile Maintenance allows user to create its particular.

Company	Name
CSPL	CRISTAL Solutions Pte Ltd
Demo	
TSD	TSD

Company Profile Maintenance

Company Code: CSPL EAN Company Code: Profile: Contacts: Miscellaneous: UDF Attributes:

Company Address

Business Registration: GST Registration: GST Rate: Company Name: CRISTAL Solutions Pte Ltd

Address: 26 Hillside Drive #01-01

State: Country: SINGAPORE Postal Code: 548945

Telephone: 6289 7838 Fax Number: 6383 8854

Remarks:

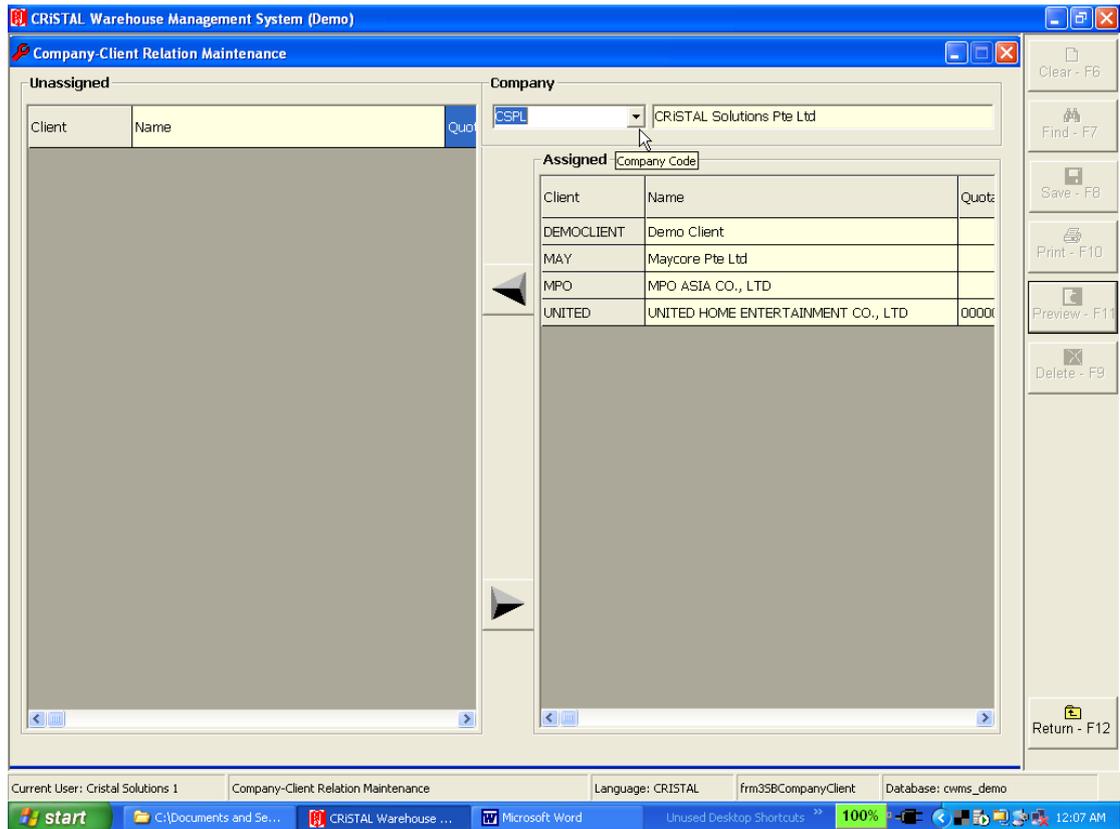
Current User: Cristal Solutions 1 Company Profile Maintenance Language: CRISTAL frm35BCompany Database: cwms_demo

STEPS:

1. Click Company Profile Maintenance under the Billing sub-module
2. Create Company Code and the rest of particulars.
3. Click Save-F8

8.3.5. Company-Client Relation Maintenance

Company-Client Relation Maintenance allows user to assign clients to the selected Company. Note: Ensure that Client has been created so that user can assign it to the Company (user's company).

**STEPS:**

1. Click Company-Client Relation Maintenance Billing sub-module
2. Select Company.
3. Any unassigned client(s) shall be displayed on the left column. Click right arrow to assign client.

8.4. Warehouse

The Warehouse module that is under Administration includes function to allow user to create warehouse, its location, zoning and task etc.

8.4.1. Locations Maintenance

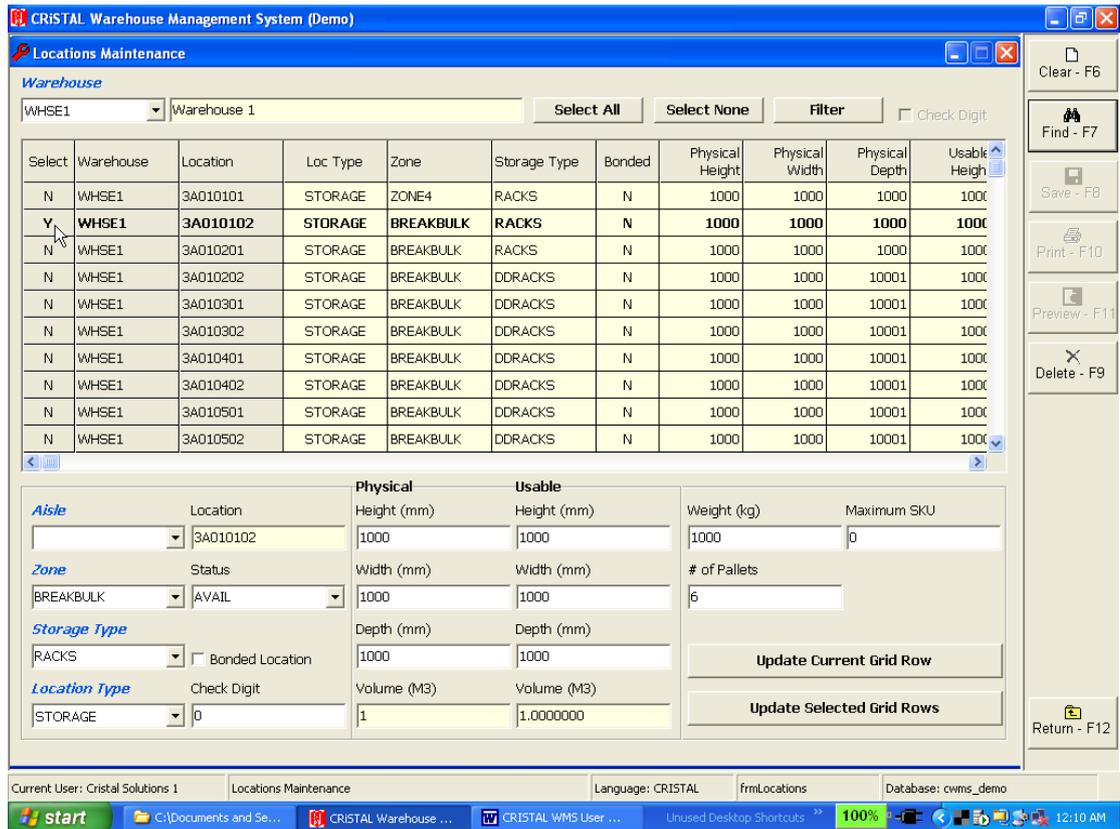
Location Maintenance provides a quick maintenance / amendment to location that has been created. This module allows user to select the specified location and make the necessary changes for this location.

The screenshot shows the 'Locations Maintenance' window in the CRISTAL Warehouse Management System. The window title is 'CRISTAL Warehouse Management System (Demo)'. The main area is titled 'Locations Maintenance' and contains a 'Warehouse' dropdown menu set to 'WHSE1' and a text field containing 'Warehouse 1'. There are buttons for 'Select All', 'Select None', and 'Filter', along with a 'Check Digit' checkbox. Below this is a table with columns: Select, Warehouse, Location, Loc Type, Zone, Storage Type, Bonded, Physical Height, Physical Width, Physical Depth, and Usable Height. The table contains 10 rows of data. Below the table is a detailed form for editing location attributes, divided into 'Physical' and 'Usable' sections. The 'Physical' section includes fields for Aisle, Location, Zone, Status, Storage Type, Location Type, Height (mm), Width (mm), and Depth (mm). The 'Usable' section includes fields for Height (mm), Width (mm), Depth (mm), Weight (kg), Maximum SKU, and # of Pallets. There are buttons for 'Update Current Grid Row' and 'Update Selected Grid Rows'. The bottom of the window shows the current user 'Cristal Solutions 1', the current module 'Locations Maintenance', the language 'CRISTAL', the form name 'frmLocations', and the database 'cwms_demo'. The Windows taskbar at the bottom shows the start button, several open applications, and the system tray with the time '12:09 AM'.

Select	Warehouse	Location	Loc Type	Zone	Storage Type	Bonded	Physical Height	Physical Width	Physical Depth	Usable Height
N	WHSE1	3A010101	STORAGE	ZONE4	RACKS	N	1000	1000	1000	1000
N	WHSE1	3A010102	STORAGE	BREAKBULK	RACKS	N	1000	1000	1000	1000
N	WHSE1	3A010201	STORAGE	BREAKBULK	RACKS	N	1000	1000	1000	1000
N	WHSE1	3A010202	STORAGE	BREAKBULK	DDRACKS	N	1000	1000	10001	1000
N	WHSE1	3A010301	STORAGE	BREAKBULK	DDRACKS	N	1000	1000	10001	1000
N	WHSE1	3A010302	STORAGE	BREAKBULK	DDRACKS	N	1000	1000	10001	1000
N	WHSE1	3A010401	STORAGE	BREAKBULK	DDRACKS	N	1000	1000	10001	1000
N	WHSE1	3A010402	STORAGE	BREAKBULK	DDRACKS	N	1000	1000	10001	1000
N	WHSE1	3A010501	STORAGE	BREAKBULK	DDRACKS	N	1000	1000	10001	1000
N	WHSE1	3A010502	STORAGE	BREAKBULK	DDRACKS	N	1000	1000	10001	1000

STEPS:

1. Select Location Maintenance under Warehouse sub-module.
2. Select Warehouse, followed by either Aisle, Zone, Storage Type or Location Type. The system lists all locations under the selected category. Alternatively, enter the location directly.
3. Select the location on the matrix screen and system shows the location attribute on the respectively fields. The Select column will also display the selection from N to Y.



4. Change the attributes as required.
5. Click Update Current Grid Row.

However, if there are more changes, user can

1. Select more than 1 location. All selected location will display Y on the Select column.
2. Amend the necessary fields.
3. Click Update Selected Grid Rows. The amendment will apply to all the select with Y.

8.4.2. Location Setup

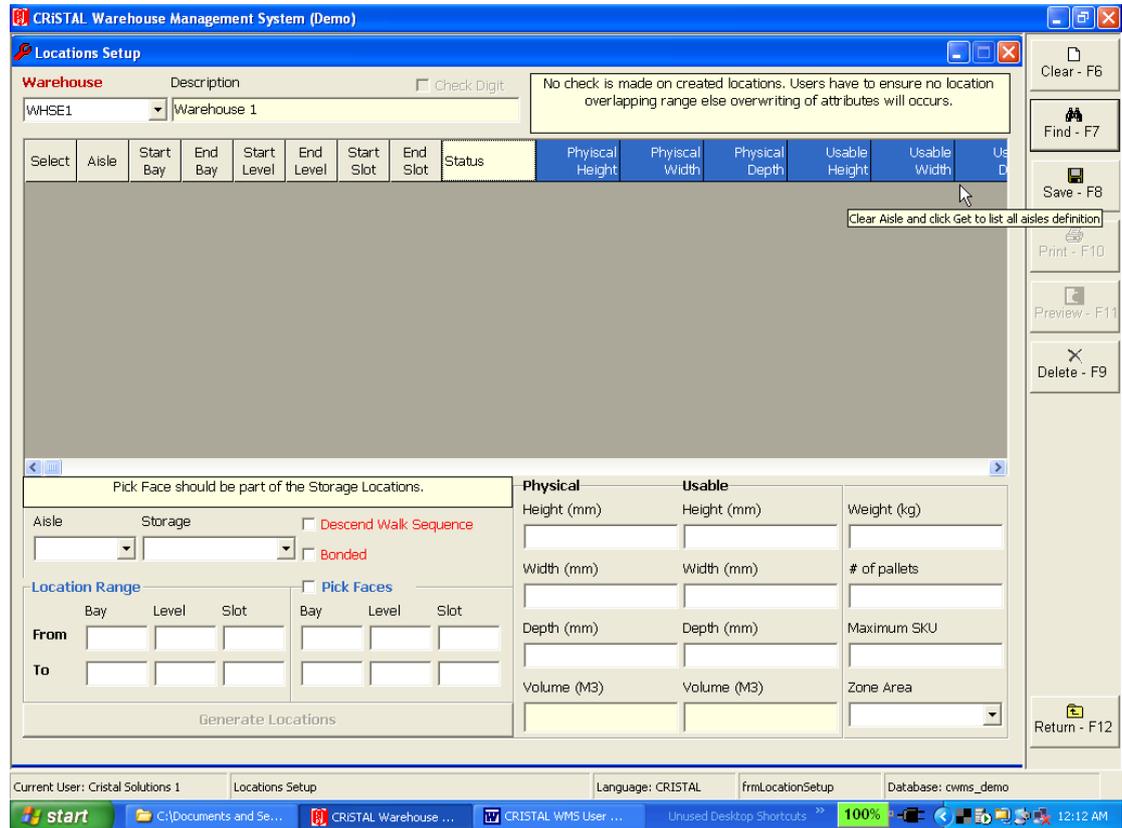
Before a warehouse can be operational with a WMS, it is necessary to be able to identify and label each location. In effect, each location is given an address.

In CRiSTAL Warehouse Management System, location addresses are assigned based their position:

- a. Aisle
- b. Bay (between 2 upright of pallet racking...)
- c. Level

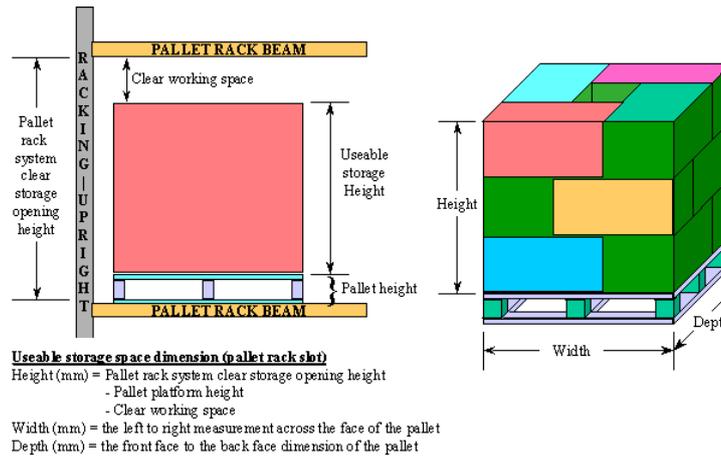
d. Slot or pallet position

Each of these components is assigned 2 alphanumeric characters (for Aisle) and 2 numeric digits for each of the other. These are concatenated or joined together to form an 8-character location address.



STEPS:

1. Click Location Setup under Warehouse sub-module.
2. Select the Warehouse and Storage Type.
3. Enter the Aisle address
4. Enter Starting Bay and Ending Bay
5. Enter the Starting Level and Ending Level
6. Enter the Starting Slot and Ending Slot
7. Specify the Physical and Useable Storage Height of the location (the space between the lower and upper beam less the height of the physical pallet and Clear working space)



8. Specify the Width of the pallet
9. Specify the Depth of the pallet
10. Specify the Max Weight capacity of the location
11. Select the Zone that the location is to be assigned
12. To designate part of the locations to be created at the same time
 - a. Tick the “Auto Generate Pick Faces” checkbox
 - b. Specify the Starting and Ending of the Bay, Level and Slot of the locations to be assigned
 - c. This step can be skipped if not sure of the pickface requirement – they can be assigned later using Admin->Warehouse->Pickfaces
13. Similarly for Bonded area
14. Click Save when completed
 - a. The system will generate the locations
15. Repeat step 1 to 13 to create other locations.

8.4.3. Station Maintenance

Station Maintenance allows user to Set up and Maintain station data. Station in CRiSTAL WMS could refer to any “work-station”. They could be container loading bay, Receiving Station, Despatch Station, Kitting Station etc.

CRISTAL Warehouse Management System (Demo)

Station Maintenance

Warehouse: WHSE1 Warehouse 1

Maintenance Setup

Station: [] Prefix: WH Length: 2000 Station Status: AVAILABLE Shipment Number: [] Container / Vehicle: []

Station Task: MULTI-TASKS From: 01 Width: 2000 Stack Factor: 1 Assigned: Arrival: []

Station Type: STATION_TYPE1 To: 10 Height: 2000 Departure: []

Station	Task Function	Station Type	Status	Assigned	Length	Width	Height	Shipment #	Containe
ST1	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	3000	3000	3000		
ST2	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	3000	3000	3000		
ST3	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	3000	3000	3000		
ST4	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	3000	3000	3000		
ST5	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	3000	3000	3000		
ST6	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	3000	3000	3000		
ST7	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	3000	3000	3000		
ST8	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	3000	3000	3000		
ST9	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	3000	3000	3000		
W101	MULTI-TASKS	40FT	AVAILABLE	N	4000	3500	4000		
W102	MULTI-TASKS	40FT	AVAILABLE	N	4000	3500	4000		
W103	MULTI-TASKS	40FT	AVAILABLE	N	4000	3500	4000		

Current User: Cristal Solutions 1 Station Maintenance Language: CRISTAL frmStationMaintain Database: cwms_demo

STEPS in Setup:

1. Click Station Maintenance under Warehouse sub-module.
2. Select Warehouse, Station tasks, Station Type.
3. Indicate Prefix for the station range. User may consider WH (for warehousing), KT (for kitting station), CB (for container bay) etc
4. Indicate the range of station by entering the From and To.
5. Enter Length, Width and Height in mm.
6. Click Save-F8 and system auto generate the range of location set.

Note:

- a. Stack Factor is defaulted to 1 by system. This means that only 1 pallet/item can be stored in the location. If 2 is used, it means that another pallet/item is stacked over.
- b. Set Station Status to Available once set up completes and ready for tasks.

STEPS in Maintenance:

The screenshot shows the 'Station Maintenance' window in the CRISTAL Warehouse Management System. The window title is 'CRISTAL Warehouse Management System (Demo)'. The main area is divided into a form and a table.

Form Fields:

- Warehouse: WHSE1 (dropdown), Warehouse 1 (text)
- Station: WH01 (dropdown), Prefix: WH (dropdown), Length: 2000 (text), Station Status: AVAILABLE (dropdown), Shipment Number: (text), Container / Vehicle: (text)
- Station Task: MULTI-TASKS (dropdown), From: (text), Width: 2000 (text), Stack Factor: 1 (text), Assigned: Assigned (checkbox), Arrival: (text)
- Station Type: STATION_TYPE1 (dropdown), To: (text), Height: 2000 (text), Departure: (text)

Table:

Station	Task Function	Station Type	Status	Assigned	Length	Width	Height	Shipment #	Containe
WH01	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	2000	2000	2000		
WH02	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	2000	2000	2000		
WH03	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	2000	2000	2000		
WH04	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	2000	2000	2000		
WH05	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	2000	2000	2000		
WH06	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	2000	2000	2000		
WH07	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	2000	2000	2000		
WH08	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	2000	2000	2000		
WH09	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	2000	2000	2000		
WH10	MULTI-TASKS	STATION_TYPE	AVAILABLE	N	2000	2000	2000		
WH11	MULTI-TASKS	40FT	AVAILABLE	N	5000	3500	4500		
WH12	MULTI-TASKS	40FT	AVAILABLE	N	5000	3500	4500		

Footer: Current User: Cristal Solutions 1 | Station Maintenance | Language: CRISTAL | frmStationMaintain | Database: cwms_demo

1. Select Warehouse.
2. Select the station from the display. Display the records on the field.
3. Amend the records.
4. Click Save-F8

8.4.4. Warehouse Setup

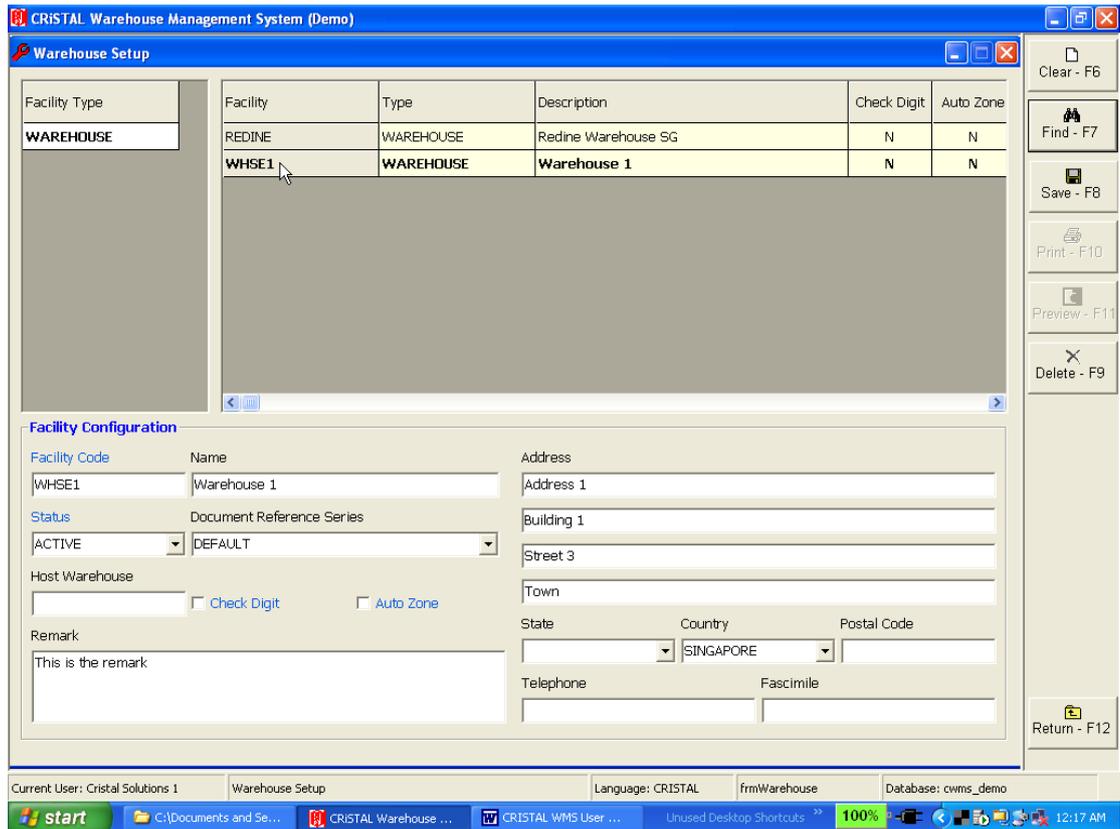
In Warehouse setup, user can create multiple warehouses that they manage.

STEPS:

1. Select Warehouse Setup under Warehouse sub-module.
2. Enter Facility Code and particulars.
3. Set Status to Active when ready for operation
4. Click Save-F8 to add the facilities.

8.4.5. Warehouse Tasks Priority

Warehouse Tasks Priority allows user to set priority based on task type.

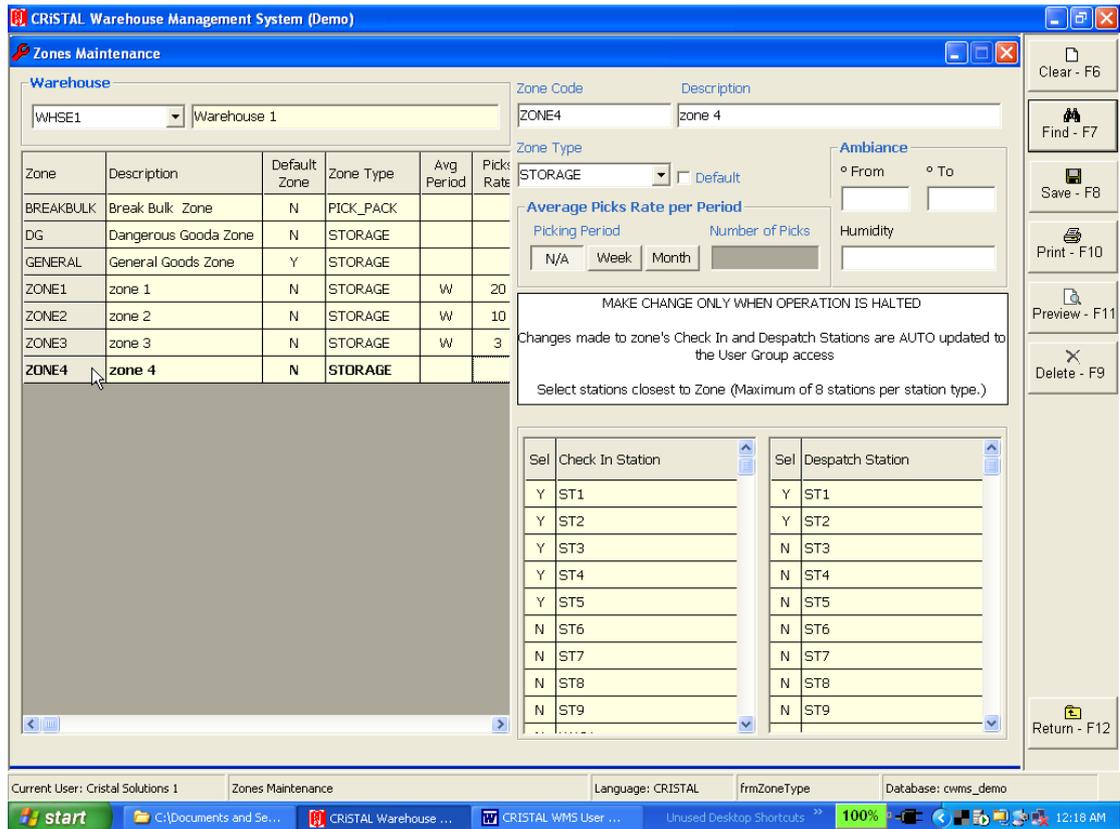


STEPS:

1. Click Warehouse Tasks Priority under Warehouse sub-module. System displays a list of Task Type.
2. Select the Task Type. System display task priority on the editable field
3. Amend priority accordingly. 99 refers to most important whole 01 refers to least urgent.
4. Click Save-F8 to save amendment.

8.4.6. Zone Maintenance

In CRiSTAL WMS, the feature of Zoning is also provided to allow user the flexibility to zone the location for easy product group or type of storage.

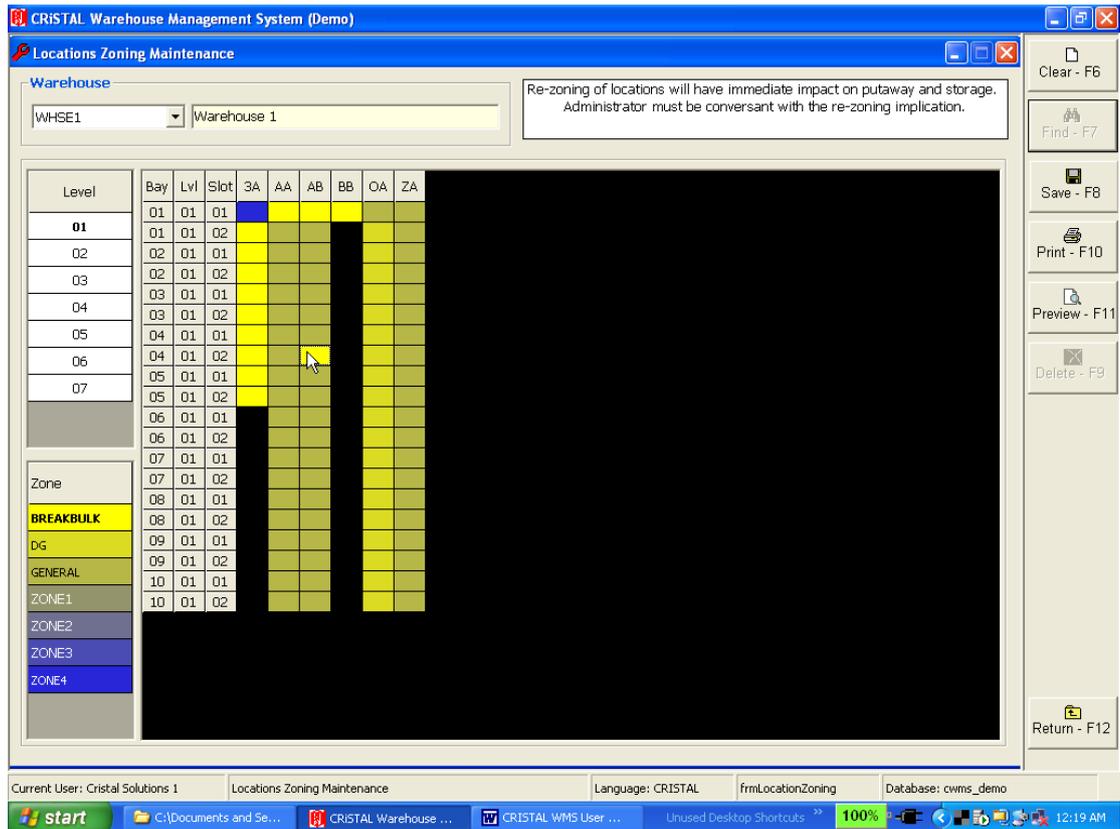


STEPS:

1. Click Zone Maintenance under the Warehouse sib-module. On the left column, it shows a list of all created zone type. To create new zone...
2. Enter Zone Code, Description and select Zone Type.
3. Select Average Picks Rate per Period.
4. Tick Check In and Despatch Station whereby work is transferred to this Zone created.
5. Click Save – F8. System acknowledges new Zone created.

8.4.7. Locations Zoning Maintenance

Locations Zoning Maintenance allows user to maintain/update individual location to be zoned quickly.



STEPS:

1. Select Locations Zoning Maintenance under the Warehouse sub-module.
2. Select Warehouse, the level so that the display on the right shall show all locations base on this level. The color code represents the type of Zone.
3. Select the Zone of which user wish to maintain.
4. Click the location matrix on the right.

8.5. Users

In the Users module under Administration, this helps the user to configure the user’s group and access rights and individual user’s set up.

8.5.1. User Groups

In User Group, it allows user to create user group and configure their access rights to the various Menu, Clients, Customers, Works, Brands etc.

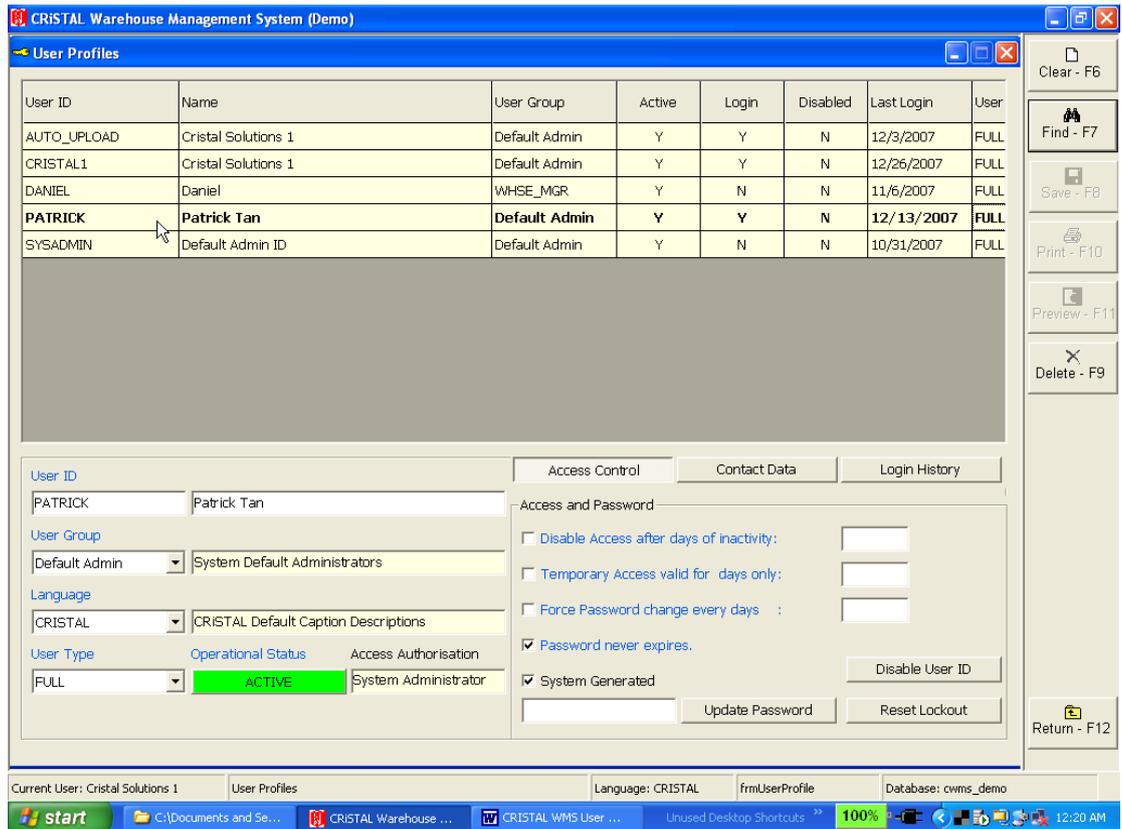


STEPS:

1. Click User Group under User sub-module.
2. System display Default Admin under the User Group.
3. Click Clear-F6, enter new User Group and User Description.
4. Select “Y” under the Grant to allow access for this new user group for the category.
5. System allows selection of accesses based on the last user group to allow easier set up or alternatively, user can select individually the access.
6. Repeat step 4 to 5 for categories for Menus, Client, Customers, Works etc
7. Click Save-F8 to save creation.

8.5.2. User Profiles

In User Profiles, this allows user to create new individual user based on their user group selection. This function also security control, and history information of the user login.



STEPS:

1. Click User Profiles under User sub-module.
2. System displays all users created or available in the system.
3. Click Clear-F6 to create new user.
4. Enter User ID and Description. Select User Group.
5. Select Languages if new language has been created, otherwise remains as CRISTAL's defaulted.
6. Click ACTIVE under Operational Status.
7. User can increase the security by amending the Access Control.
 - a. Check the necessary boxes under Access and Password.
 - b. System default to System Generated password so that user can issue them to the newly created user. Upon log in, new user can change to his/her preferred password.

_____ END _____