Visual Planner for System i User Guide

INFOR™

Publication Information

Release: Infor Visual Planner for System i 6.1

Publication Date: November, 2010

Table of Contents

About This Guide

The *Visual Planner for System i User Guide* provides instructions to install, set up, and use Visual Planner for System i (VPi). Use this guide with the integration guide for your ERP product to implement VPi.

Intended audience

This guide is intended for system administrators who install and configure software and the manufacturing personnel who plan with MRP.

Prerequisite knowledge

You must be familiar with the System i and with the manufacturing and planning modules for your ERP product.

Contacting Infor

If you have questions about Infor products, go to Infor365 Online Support at http://www.infor365.com.

If you do not have an Infor365 account, click Register now, and complete the registration. You will receive a log-on ID and password within 24 hours.

When you access Infor365, you have these options:

- To access Infor knowledge bases, incidents, documentation, software downloads, and community discussion forums, click one of the links from the top menu of the home page.

- To add an incident, select one of these options from the Incidents menu:

  - Add Product Incident: To ensure that your report reaches the correct support group, specify your product, version, and other details.

- Add General Information Request: Use this option for all other requests.

- To find the Customer Support telephone number for your region, click Contact Infor in the top right corner of the home page, specify a product name, and click Search.

If we update this document after the product release, we will post the new version on Infor365. We recommend that you check this Web site periodically for updated documentation.

If you have comments about Infor documentation, contact documentation@infor.com.

Chapter 1 Installing and Configuring VPi   1

This chapter introduces Visual Planner for System i (VPi) and provides the requirements and installation instructions for VPi. See the integration guide for your ERP product for additional requirements.

The chapter consists of the following topics:

Overview

VPi is a standalone product which provides an ERP user the ability to perform MRP generations, using data from the ERP system, on a PC.

VPi contains functions that extract data from the inventory and product database, run requirements generations, and perform shop-scheduling routines. VPi matches supply against demand and develops a supply plan for materials and production resources. Schedules can be reviewed and maintained and uploaded to the MRP data file structure for further processing.

The data that is used in the planning functions comes from the same records that are used for the current MRP generation. See the integration guide for your ERP product for information about the data that is mapped into VPi.

VPi provides a user-friendly interface with graphic representations of planning data and drag-and-drop operations to maintain the planning data.

You use multiple views, drill-downs, "what ifs," and un-do steps to resolve material and capacity issues to meet your customer requirements.

System requirements

VPi has the requirements listed below. See the integration guide for your ERP product for software requirements to use the ERP product with VPi.

PC or server requirements

You can install the VPi engine and the Access database on the planner's PC. If you have more than one planner you can install the VPi engine on each planner's PC and install the database on a server.

PC component	Requirement
Processor	Dual Core CPU
Memory	1-2 GB for Small and Medium Plants 2-4 GB for Medium and Large Plants
Disk	100 GB
Network	1-10 Gbps
Operating System	Microsoft Windows 7, 32-bit Microsoft Windows 2008 Enterprise Edition, 32-bit Microsoft Windows Vista Business/Premium Microsoft Windows XP Professional Microsoft Windows 2003 Enterprise Edition, 32-bit Microsoft Windows 2000 Professional/Server

System i connectivity

The desktop that runs the VPi engine must be connected by an Open Database Connection (ODBC) data source to the System i server on which the ERP system is installed. Use Client Access Express, Version 5, Release 1 or later for this connection.

VPi engine database

The VPi engine uses a Microsoft Access 2000 database, shipped in the DB folder in the INFORVPi installation folder, and an ODBC data source pointed to it. Microsoft Access 2000 need not be installed on the PC to run the AVP engine.

For those customers with larger databases, functionality has been added to allow VPi to work with an SQL Server database. Contact your Infor representative or Infor PSO for assistance.

Installing and implementing VPi

See the integration guide for your ERP product for setup instructions on the System i.

Installing and implementing VPi includes these tasks:

- Installing Infor VPi Software and entering license key, if required.

- Creating and Defining an Open Database Connection (ODBC) data source to the System i server running the Infor ERP application.

- Modifying the iSeriesIntgration.ini File.

- Defining and setting parameters for VPi planning within the VPi application.

See the integration guide for your ERP product for more information.

Installing VPi on client PC or Server

VPi includes the VPi engine and requires the Material Requirements Planning (MRP) module for your ERP product. If you do not have MRP on your System i, install it using the normal installation process for your ERP product.

VPi is delivered on an ISO image on the Infor download center. Use your normal procedure to download and copy the ISO image.

To install the VPi engine, double-click on the VPi*xx*SetUp.exe file for your ERP product. Follow the screen prompts to install the product.

When the software installation is complete, Visual Planner for System i appears on your Start/Programs menu and two shortcut icons appear on your desktop. Proceed to the next step to create an ODBC data source.

Visual Planner   Visual Planner Download
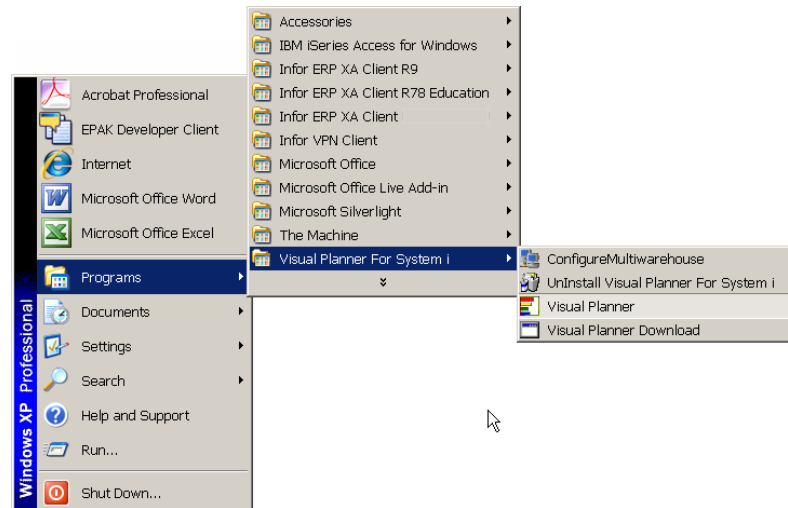
Creating an ODBC Data Source

Your integration may require you to establish an ODBC connection between your Windows desktop and the System i on which the ERP system is installed. See the integration guide for your ERP product for instructions.

Linking VPi to the ERP environment on the System i

Navigate to the INFORVPi folder on the drive on which you installed VPi. Edit the iSeriesIntegration.ini file in that folder to identify the data source, the user ID and password, the environment, and the warehouse.

See the integration guide for your ERP product for instructions to configure the iSeriesIntegration.ini file, if required for your integration.

Maintaining your Installation

Periodically, VPi updates will be made available to you. To maintain your installation:

1 Download the software.

2 Select Start>Programs>Visual Planner for System i>Uninstall Visual Planner for System i.

3 Install the new version. See "Installing VPi" for more information.

4 If you renamed one or both VPi desktop icons, installing a new version may create new icons with the original name. If so, delete these new icons.

Your original configuration information is maintained; therefore, you need perform no other steps.

Planning multiple entities

To plan multiple entities, that is, multiple warehouses, facilities, or companies with VPi, install the VPi engine for each entity. Each entity has these requirements:

- Separate PC database
- An ODBC connection to that database
- An ODBC connection to the ERP system on the System i.

You can either plan each entity on a separate PC or you can plan multiple entities on the same PC.

To plan each entity on a separate PC, use the preceding sections of this chapter to install and configure the VPi engine on each PC that is used to plan an entity.

To plan multiple entities on one PC, use the following sections to install the VPi engine multiple times on the PC.

Multiple VPi installations on one PC

To plan multiple entities on one PC:

1 Install and configure the VPi engine for an ERP environment and entity, as described in this chapter.

2 Rename the desktop icons.

   a Rename the VPi Download desktop icon. For example, rename the icon to VPi DL WH1, where WH1 is the ID of the entity in the first installation.

   b Rename the VPi desktop icon. For example, rename the to VPi WH1, where WH1 is the ID of the entity in the first installation.

3 Rename the ODBC connection to the VPi Access database:

   a Launch the VPi engine. Select File > System Configuration. In the System Configuration window, click Setup. In the Dialog window, click ODBC Setup.

b On the ODBC Data Source Administrator window, click the System DSN tab. Double-click on the Data Source named Visual Planner for System i.

c On the ODBC Microsoft Access Setup window, rename the data source:

- Type a new name over the existing name, Visual Planner for System i. For example, type Visual Planner for System i_WH1 where WH1 is the ID of the entity in the first installation.

- Click OK, then OK again. In the Dialog window, ensure that your newly renamed data source is selected in the Select ODBC Source list. Click OK, then OK again. Exit VPi.

4 Navigate to the folder in which you installed VPi (INFORVPi, if you accepted the default). Edit the Config.ini file and verify that the changes above automatically updated the name of the data source (DataSourceName) with the new name you assigned in the preceding steps. For example, type Visual Planner for System i_WH1.You are now ready to install VPi for the second warehouse. See "Installing VPi" for more information. See "Configuring VPi" for more information.

5 Install the VPi engine in a separate folder. Select Browse… on the Select Destination Directory window and type in a different folder name. For example, type Visual Planner for System i_WH2, where WH2 is the ID of the second entity. The folder can be on the same drive as the first installation or on a different drive.

6 Create a new ODBC data source to the System i server, to permit concurrent operation in separate System i jobs for each entity between the PC and the System i. See "Creating an ODBC data source" for more information.

7 Link the new VPi installation to the ERP environment. Edit the IseriesIntegration.ini file in the new VPi install folder (for example, INFORVPi_WH2). See "Linking VPi to the System i ERP environment" for more information.

8 Confirm that the second installation lists the InputFileDir in both IseriesIntegration.ini and Config.ini pointing to the second entity's SampleDBAP folder (that is, INFORVPi_WH2\SampleDBAP).

You can now optionally rename the newly created VPi Download and VPi desktop icons, as well as the ODBC connection to the VPi Access database, just as you did for the first installation, to clearly identify these items as the second entity. After you rename the icons and ODBC connection, you are ready for another installation on the same PC.

Maintaining multiple VPi installations on one PC

To install a new version of the VPi engine:

1 Download the new software.

2 For each installation on the PC, uninstall the existing VPi program.

3 Install the new version into the existing install folder.

Chapter 2 VPi Concepts

<div style="text-align: right; color: white; background-color: #b01116; display: inline-block;">2</div>

VPi uses MRP data from the System i and replaces the MRP planning run. This chapter provides a summary of the information flow within VPi and how it compares with MRP.

The chapter consists of the following topics:

Information flow

Planning with VPi consists of the steps that you perform on the System i before you download data to VPi; the download process, planning, and uploading data; and the steps that you perform on the System i to use the plans that you executed. The following figure shows the information flow between the host system and within VPi.
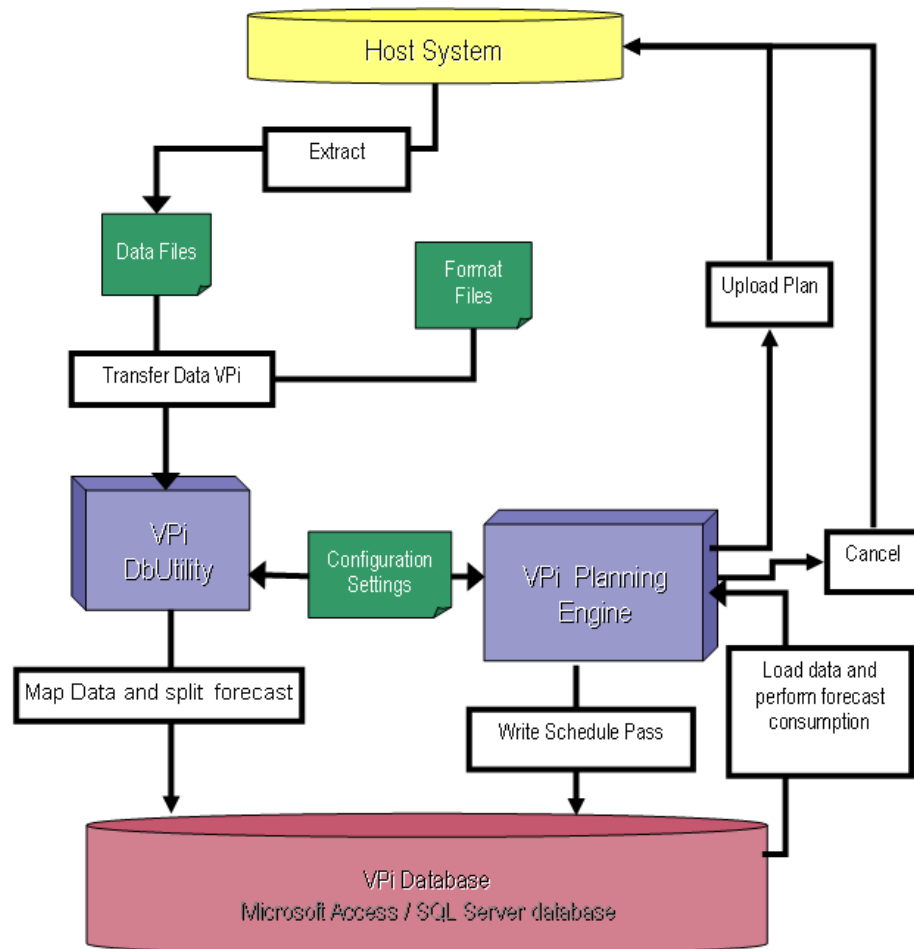
Before you plan

Supply and demand information that is used by MRP is used in VPi planning. Review the data on the System i before you download the data to VPi. The success of planning in VPi is dependent on the quality of the data that is downloaded.

The demand can come from these sources:

- Forecasts
- Customer orders
- Expected customer orders
- Resupply or replenishment orders

The supply information can come from these sources:

- On hand inventory
- Open manufacturing orders
- Open purchase orders, blanket orders, and requisitions, and open inter-site orders
- Firm planned manufacturing, purchase and inter-site orders as supported in MRP.

The items and customers in your ERP database may be downloaded to VPi. Verify that this information is accurate. VPi uses item and customer information but you cannot maintain the data in VPI.

Many of the item and planning codes, horizons, and other parameters from MRP planning are also used in VPi planning. See the integration guide for your ERP product for more information.

While you plan

Manage planning from the VPi planning engine. You perform these steps, either interactively or in batch mode.

- Download: Demand data is transferred to the VPi engine. Identification of the data to download and the download process are determined by your ERP product. During the download process, customer orders consume forecasts, and VPi uses only customer orders and unconsumed forecasts to drive planning.

- Plan: VPi matches supply against demand and develops a supply plan for materials and production resources. You can review, interact with, and modify the plan. You use multiple views, drill-downs, "what ifs," and un-do steps to resolve material and capacity issues. VPi stores your actions and you can save the plan. See "Using the VPi Engine" for more information.

- Upload: When you save the plan, VPi extracts data and transfers it to the System i. The upload process updates the ERP product's files. See the integration guide for your ERP product.

After you plan

Review and release manufacturing, purchase, and inter-site orders. Make any manual adjustments necessary to synchronize the ERP product's files with the uploaded plan.

Demand management

Demand management, that is, recognizing all demands for your production, is critical to managing resources. Demand management includes forecasting, order entry, and order promising as well as interplant requirements.

Forecast consumption

VPi consumes forecast demand with customer sales order demand. It plans using only the unconsumed forecast and the customer sales demand. It consumes this forecast by month, or by smaller periods, if the forecasts are in smaller periods.

For example, a forecast of 100 per month is divided equally into four weekly forecasts of 25. A customer places an order for 55 in the third week of the month. VPi consumes the third-week forecast of 25, then works toward the beginning of the month, consuming the second-week forecast of 25, and then finally consumes 5 of the first week forecast of 25. If insufficient forecast exists at the beginning of the month, VPi consumes any available forecast to the end of the month.

Managing forecasts

To manage forecasts, you can either define the planning periods as weeks or months.

If planning utilizes a 445 (4 week, 4 week, 5 week) production calendar, the recommended option is to convert all the first-year periods being planned in VPi to weeks. Use the appropriate program in your ERP product to convert the planning periods to weeks before you perform the download. If you do not, because months and forecasts have different lengths and the forecast is always loaded on the first day of the planning period, some months may have two forecasts and other months may have none. This will result in unsatisfactory forecast consumption.

The preferred option is to maintain monthly forecasts and use VPi to split the forecast into weekly numbers. With this option, you split the forecast in VPi after you perform the download.

To best utilize Forecast Splitting and Consumption in VPi, we recommend that you download "monthly" forecast demand and use the splitting function

to split 2 or 3 months into weekly buckets (Once Every 5 Days for a Monday through Friday shop or Once Every 7 Days for a Sunday through Saturday shop).

To use the monthly split option:

1 In the INFORVPi folder, run Dbutil.exe.

2 Select File > Download Configuration.

3 Select the Order Board tab.
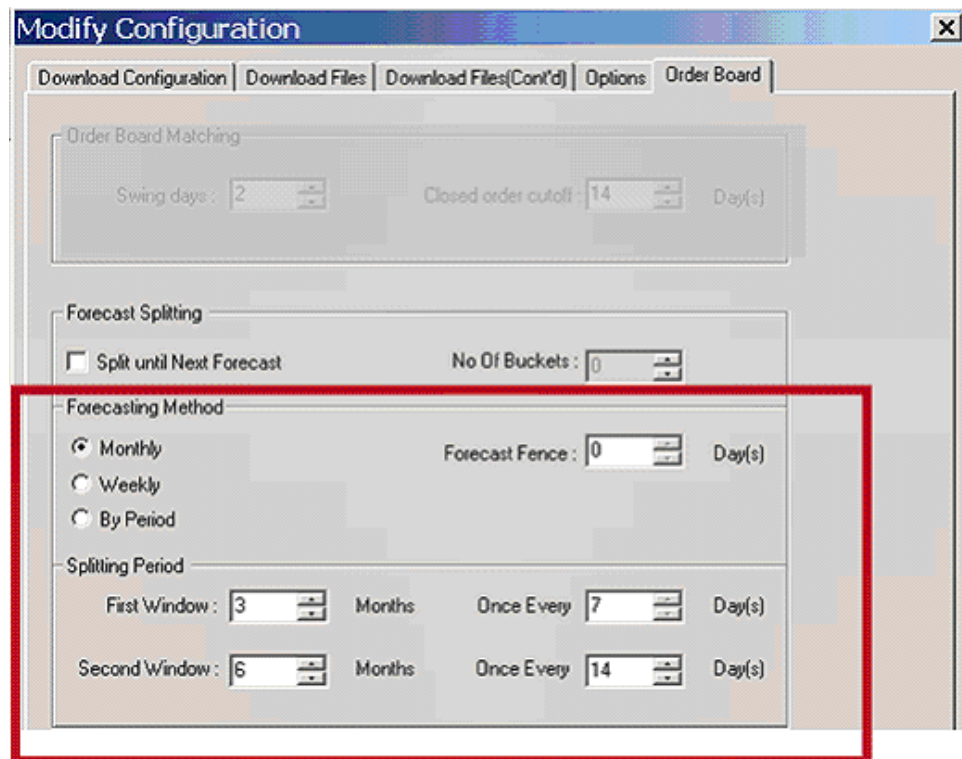
4 For Forecasting Method, select Monthly.

5 Enter the Splitting Periods.

6 Click OK.

Consuming forecasts

Forecast can be consumed in four ways:

- Individual item. This is the simplest way as it requires no special coding. The sales of each item consume the item forecast.

- An item and its parents. If many possible finished product configurations exist, made from a small number of components, you can forecast at the component level rather than the finished product level. No finished product forecast is entered.

  As VPi consumes forecast at the highest level with a forecast as the components, the forecast is consumed there since the customer order demand is exploded through the bill of material levels.

- Planning bill family. Identify an item as a planning bill item and enter forecasts for the item. In the bill of material, for the optional components, multiply the quantity required for one unit of the planning item bill by the expected percentage usage of that option. VPi explodes the forecasts for the planning bill item through the bill of material until it reaches a non-phantom item, then it forecasts that item. Do not enter customer orders for the planning bill since its bill of material is a component bill that cannot be manufactured. Enter customer orders for items with a bill for a specific configuration, and when the components in the ordered configuration match the components in the planning bill, the forecast is consumed.

- Product Family, which does not utilize a Planning Bill thus removing any quantity restrictions on the individual family items. The "Base" Item is forecasted. Customer Orders for family items consume the "Base" Item's forecast.

VPi downloads only forecast beyond the first of the current planning month.

The ERP product's forecasting program must build and maintain the forecast, but need not delete it as time passes. Download does not use the forecast in planning if it is inside the demand time fence. Download deletes the forecast if it is earlier than the MRP Current Date.

The ERP product's program must build and maintain the customer demand entirely, including deleting the demand when the order is shipped.

VPi also plans safety stock in addition to any other forecast or customer demand.

Total and Unconsumed Forecast

VPi shows the total forecast in Forecast Demand, and after planning, it shows only the unconsumed forecast in Requirements. Only the unconsumed forecast is used in planning.

Upload builds forecast requirement records for the unconsumed forecast. The next Download deletes the unconsumed forecast records.

VPi shows the total forecast from all sources in Forecast Demand. VPi consumes forecast to determine the forecast used in planning and updates the MRP requirements file with the results.

Viewing forecast consumption summary

To view a summary of forecast consumption:

Select Display > Forecast Consumption - Summary

This window shows you consumption of all forecast records that are downloaded. Forecasts can be consumed by sales orders for that item or of its parent item based on how you have configured the forecast. You must maintain a list of items for which you want the forecast to represent the forecast for the entire demand stream of the item.

Forecast Consumption

	Forecast ID	Part ID	Customer ID	Forecast Qty	Consumed	Qty On Order	Forecast Family	Original Target Date	Projected Completion	Forecast Type
1	FORECAST	CMP0C10		530	0	530		05/01/2002	05/01/2002	INPUT
2	FORECAST	CMP0C10		110	0	110		06/03/2002	06/03/2002	INPUT
3	FORECAST	CMP0C75		247	0	247		05/01/2002	05/01/2002	INPUT
4	FORECAST	CMP0C75		110	0	110		06/03/2002	06/03/2002	INPUT
5	FORECAST	CMP0M25		288	0	288		05/01/2002	05/01/2002	INPUT
6	FORECAST	CMP0M25		184	0	184		06/03/2002	06/03/2002	INPUT
7	FORECAST	CMP0M85		273	0	273		05/01/2002	05/01/2002	INPUT
8	FORECAST	CMP0M85		174	0	130		06/03/2002	06/03/2002	INPUT
9	FORECAST	CMPLC10		336	0	336		05/01/2002	05/01/2002	INPUT
10	FORECAST	CMPLC10		101	0	101		06/03/2002	06/03/2002	INPUT
11	FORECAST	CMPLC75		165	0	165		05/01/2002	05/01/2002	INPUT
12	FORECAST	CMPLC75		145	0	145		06/03/2002	06/03/2002	INPUT
13	FORECAST	RTA0M45		400	0	0		05/10/2002	05/15/2002	INPUT
*										

By default, the forecast specified is consumed only by sales orders for that item. In addition to the forecast downloaded from your ERP, safety stock forecast records are generated for items for which safety stock is specified. Safety stock is not consumed; it serves as an additional requirement for the item. Safety stock requirements are placed at a fixed duration from the current date. See the FMT file for Item for your ERP for more information.

The Forecast Consumption window displays this information:

Forecast ID

A descriptive, non-unique identifier for the forecast record.

Part ID

The item being forecast.

Customer ID

Identifies the customer if forecasting at the customer level rather than utilizing the traditional global forecast.

Forecast Qty

The quantity being forecast for that item in that planning period.

Consumed Qty

The forecast consumed by Shipments in that planning period.

Qty On Order

The forecast quantity consumed by open customer orders in that planning period.

Forecast Family

The family ID flag that determines if a forecast is non-consumable (FULL) or if the forecast is associated with a planning bill family or a product family

Planning with VPi

Review the following concepts that are used in VPi.

Planned order quantity

VPi determines planned order quantities for all items as follows:

1 Subtracts on-hand, open orders, and firm planned orders from the time-phased item demand to get time-phased net demand.

2 Totals the net demand over the item aggregation period.

3 Increases to the item minimum, if the item minimum is larger than the net demand

4 Rounds up to a multiple of the item multiple if an item multiple is specified

5 If an item maximum is specified:

   - If purchased, plans the order and issues an exception if the order quantity is larger than the item maximum

   - If manufactured, plans the order for the item maximum if the order quantity is larger than the item maximum

6 Subtracts the order quantity planned from the demand, and returns to step 2 until orders are planned for all demand.

Manufacturing order lead times

VPi calculates lead times for manufacturing orders using order quantity and routing and workcenter data, specifically workcenter standard queue time and operation setup time and runtime. VPi also assumes that, except for operations in which the entire order is processed at once, operation times are overlapped as individual items are moved to the next operation as they complete the current operation. Therefore, you should review and update workcenter standard queue times, as they are used to determine planned manufacturing order lead times.

Note: The default calculation is to overlap operation times. A parameter in the Config.ini file allows for consecutive operations. Set TransferEntireBatch to 1 to use consecutive operations. See Appendix B "Configuration Parameters" for more details.

Purchasing time fences

VPi does not consider the Firm Time Fence or the Authorized Time Fence. Purchase orders are flagged for release only if their start date is on or before the Release Date.

Order rescheduling

If an item reschedule code is left as 0, VPi defaults purchased items and master level items to 1 (no automatic rescheduling) and all other items to 4 (automatic reschedule in and out).

The minimum days to reschedule field, for both the site and the item, is ignored. The minimum days to reschedule days is 1 for all items.

The automatic reschedule options for all three types of orders, specified when you initiate an MRP Planning run, are treated as Yes.

The Due date in past (automatic reschedule options) for all three types of orders, specified in Planning Run Execution Options, are handled based on the reschedule frozen zone:

- If the reschedule frozen zone is 0, VPi uses no frozen zone. For items specified as automatic rescheduling, the order is rescheduled to align with the demand.

- If the reschedule frozen zone is positive, the past due order is in the frozen zone, and is not rescheduled.

Control items

Control items are those items with an item reschedule code of 1, 2, or 3, or master-level or purchased items with an item reschedule code of 0. Manufactured and purchased items are treated the same way. VPi does not automatically re-schedule open and firm supply orders for control items. You, however, can manually intervene during the planning session to reschedule the orders.

VPi deletes and recreates planned orders for control and non-control items each time it explodes through the bill of material. All open and firm planned orders for non-control items are generally rescheduled during each explosion. The exceptions to this rule are as follows:

- Open and firm planned orders are not rescheduled within the rescheduling frozen zone.

- Open and firm planned orders are not rescheduled if the order reschedule code is 5.

You can identify additional control items during a VPi session.

VPi allows multiple valid item revisions on one date and multiple item processes for each item revision. An item revision can have only one primary item process on one date. VPi also lets you control how many item processes and corresponding bills and routings are downloaded for planning. See the file mapping for your ERP.

Item processes

VPi determines the effective item process for planned work orders as follows:

1 Find the item revision with the latest effective-from date less than or equal to the order start date.

2 If multiple revisions with the same effective-from date exist, find the one with the latest effective-to date

3 Use the primary item process for the item revision effective on the order start date.

Forward scheduling

Forward scheduling ensures that reasonable dates are set for order due dates. Suggested due dates in the Supply Demand window and Orders window are set to these dates if the orders are past due. The earliest feasible date for a supply is calculated using minimum queue times and is affected by the following:

- Horizon start

- Back wall due to firm order due dates

- Minimum lead time for purchase parts

Lot sizing policies

VPi supports lot sizing policies for both make and purchase items. The quantity of planned supply is determined using the following parameters in the part table:

- Aggregation period (in days)

- Purchase Multiple of (quantity)

- Minimum lot (quantity)

- Make Maximum Lot (quantity)

VPi generates a planned supply order on the date of the first shortage for all the requirements over the aggregation period. It then adjusts this quantity by the minimum lot if the supply quantity is less than the minimum lot and the purchase multiple-of, by rounding the quantity up to the nearest multiple. For manufactured items, VPi plans orders no larger than make maximum lot, if one is supplied.

Notes

Chapter 3 Preparing for Planning

<div style="text-align: right">3</div>

This chapter discusses the tasks to set up VPi, the steps to load a project, and the menus to navigate to the charts and tables.

The chapter consists of the following topics:

Download data

When you download data, forecast and customer sales order demand data and planning data is extracted from your ERP product's database and transferred to the engine. The following options apply to download and should be reviewed and set before running download.

Setting the download mode

You can download in either test or planning mode. You can save the plan and upload data to the System i only in planning mode.

To select the mode:

1 Navigate to the INFORVPi folder and open the ISeriesIntegration.ini file.

2 Change the mode using these parameters:

Parameter	Definition
DownloadMode	0 (Default) Test. 1 Plan.
AVPActive	0 (Default) VPi is not active. The warehouse is planned by MRP. 1 VPi is activated in this warehouse.

Downloading data

When you are satisfied that the data in your ERP product is complete, download the data to VPi. Initiate and run the download process in VPi.

To download planning data to VPi, you have these options:

- Double click the Visual Planner Download icon on your desktop.
- Select Start > Programs > Visual Planner for System i > Visual Planner Download

Setting up VPi

Before you can plan, you must define your planning parameters, such as the default horizon days and the date format to use in VPi. You must also create a default calendar. You have the option of adding calendars and associating workcenters with the calendars. See the integration guide for your ERP product for additional setup steps.

Setting parameters for VPi planning

To set parameters for VPi planning:

1 Start VPi. Select File > System Configuration.

2 Specify this information:

Default Horizon in Days

Type in the number of days in the horizon for load to capacity (L:C) planning. The scheduling horizon starts with the MRP current date, and loads and capacities are calculated over this horizon. The supply plan covers all demand, regardless of this horizon. Default is 30 days.

Date Format

Select the date format to use in VPi.

Include Setup in L:C

Check this box to adjust the load to capacity chart for setup. If you select this option, setup is included for every supply order run on the facility.

Establishing calendars

Typically, users create calendars two to three years out. If the default calendar does not exist, VPi forces you to create one when you load the project. Use the calendar feature to define separate calendars for each workcenter if required. You must define at least one default calendar. VPi uses the default calendar to calculate purchase lead times. If you add any

calendars, or make any changes to the default calendar, you must reload the project for the changes to take effect.

> **Note:** The default VPi calendar has a 24-hour day but the capacity of a workcenter that uses this calendar can be greater than 24 hours. VPi calculates the capacity of a workcenter using the 24-hour day and the number of machines or operators that increase the capacity of the workcenter. The L:C chart displays the number of machines or operators as "Units." VPi obtains the number of units from the data downloaded from your ERP.

Creating the default calendar

The default calendar is the calendar under which most of your company works. All work centers are initially associated with the default calendar.

To create a default calendar:

1 Select DB Maint > Calendar.

2 Select the location that will use the calendar.

3 Select **Default** in the Select Calendar field.

4 Click New Calendar.

5 Enter this information in the Create New Dialog:

Calendar ID

Specify an ID or description for the default calendar.

Start Date/End Date

Specify the period of time that the planning and scheduling process will cover. Enter the dates in the format that you specified in the System Configuration dialog.

6 Click OK.

7 Specify the *Default Working Hours Per Day* and the *Working Days in Week*. Reduce the number of working hours to account for breaks.

VPi does not use these fields:

Start of Week

Max Work OT

Max Non-work OT

Max Weekly OT

8 Click Default to populate the default hours per day and the working days in the calendar.

9 To simulate days off and maintenance on new workcenters, double-click the specific date in the calendar dialog box and enter the new number of hours of availability on that day. Type in zero if it is a day off.

10 Click OK.

Restoring default settings

To restore your previous default working hours per day:

1 Click Restore.

2 Click Save. You cannot restore after you have changed the default working hours per day and saved the change.

Creating a new calendar

Use the New Calendar command to create new calendars. The software asks you set the duration for which the calendar is to be created. Note that when you create a new calendar, you must recreate any holiday or maintenance schedules you previously created with default calendars.

Creating a duplicate calendar

Use the Duplicate Calendar command to create another calendar. You can set your default calendar as your starting point. The hours per day, holiday, and work-week information are carried over from the default calendar.

Associating workcenters with a calendar

To associate a workcenter with a calendar that you have already created:

1 Click Associate.
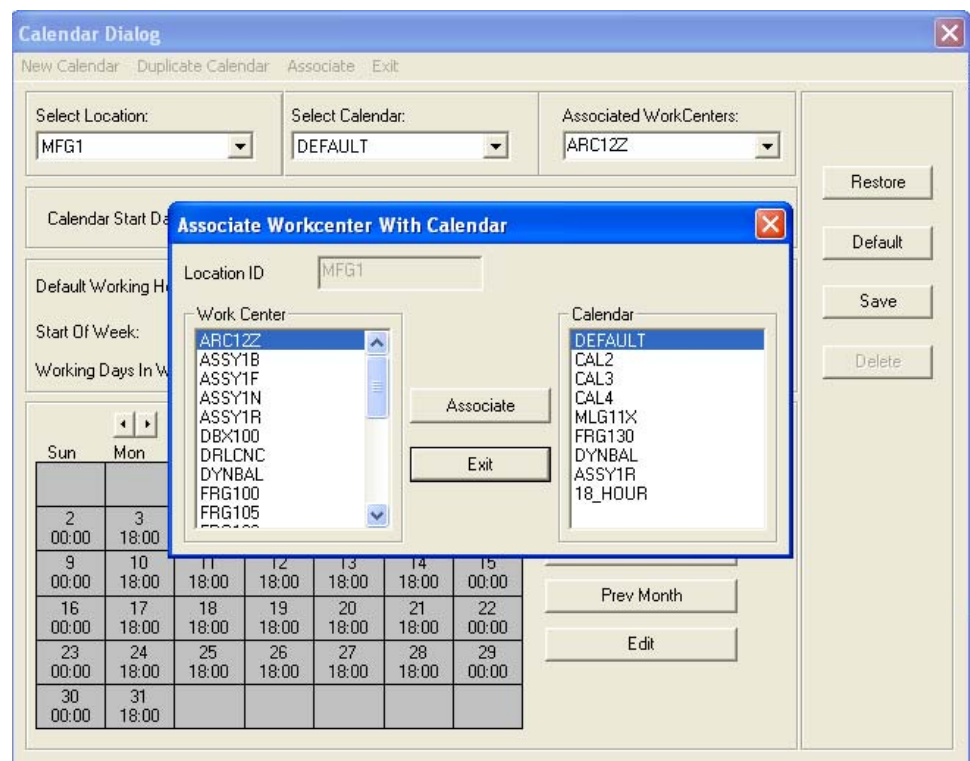
2 Select one or more work centers to be associated with this calendar. Use the Shift or Ctrl keys to select multiple work centers.

3 Select the calendar with which to associate these workcenters.

4 Click Associate.

5 Click Exit.

6 Save the calendar information to permanently save associations.

Resetting start and end dates

Click Calendar Start Date or Calendar End Date to reset those dates on a calendar. Click Save.

Loading the project

After you complete the steps to set up VPi, you are ready to load the project. To load the project, select Load Project or click the file-folder icon to download MRP data from the System i.

After the initial download you cannot download data again until you upload a plan to the System i.

VPi reads the data, loads it into memory, and processes this data:

- Uses the BOM and routing information to build the product structure

- Processes the work order files

- Performs forecast consumption.

After the data is loaded into memory, you can access charts and tables either from the Display menu or by right-clicking your mouse in the window. Actions are available by right-clicking in the window. Most actions are available only for supply orders, and you can select one or more orders by selecting any column in that order's row. Only the actions that can be taken for that order are shown. Other actions are inactive.

Using the menus

Use the VPi menus to select the options that you need to set up and use VPi and to manage the display of charts and tables.

File menu

The file menu includes several options that you use to maintain a project in VPi.

System Configuration

See "Setting up VPi" for more information.

Load Project

Select Load Project or click the file-folder icon to download MRP data from the System i. After the initial download you cannot download data again until you upload a plan to the System i.

Set Telescopic Buckets

You can change the bucket size and the number of buckets. This option is available on the toolbar and on the option list that is displayed when you right click on a chart or data.

Save Plan

Save the plan and upload the data to the System i. If your ERP product locks jobs, the upload releases the System i jobs that were locked when you ran download.

Cancel Plan

Cancel the plan without saving it. If your ERP product locks jobs, Cancel Plan releases the System i jobs that were locked when you ran download. Use this option if you do not want to save the plan until you make changes to data on the System i.

Export Data

To export a table to a text file:

1 Display the table. If the information is in chart format, select Display > Table and then display the table.

2 Select File > Export Data…

3 When prompted, specify the directory in which to save the text file and a file name.

Print

To print a table:

1 Select File > Print to print the active window.

2 For a table with many columns, use the printer properties dialog to specify landscape view.

3 Select the columns and rows to export.

4 Click OK.

Print Preview

This menu item is available if the Time-Phased Order Chart is active. From this preview window, you can zoom in or out of the Time-Phased Order Chart and select to print the chart.

Print Setup

This menu item is available if the Time-Phased Order Chart is active. Use the dialog to specify the bucket range of the Time-Phased Order Chart that you want to print.

Exit Application

Exit the planning engine without either saving the plan or releasing the locked System i jobs. See the chapter "Uploading data to the System i" for more information.

Display menu

Use the Display menu to manage the display of some data and to navigate to the various tables and charts available in VPi.

- Toolbar. Select the Standard toolbar. The toolbar includes icons that represent the actions that you can take in VPi. The icons are active for the actions that you can perform in the active window.

- Bar. Display the succeeding windows as bar charts.

- Table. Display the succeeding windows as tables.

Use the options below to display tables, charts, and windows that you use to maintain plans in VPi. See the chapter "Using VPi."

- Item List Filter

- Create Firm Planned Order

- Past Due Purchase Orders

- Item List

- L:C for Plant

- Items Load

- Timephased Orders

- Orders Window

- Which Orders to Push Out

- Push All Orders Out

- Which Customer Orders to Push Out

- List of Customer Orders to Push Out

- Waterfall—Pegged Order

- Waterfall—Feeding Supplies

- Supply Demand Summary for Part

- Timephased Labor Load Summary

- Timephased Workcenter Load Summary

- Forecast Consumption – Summary

- Forecast Consumption - Detailed

- View Log

Notes

Chapter 4 Using the VPi Engine

4

Use the VPi tables and charts to maintain your plan. Load a project and then use the menus, toolbar, and actions list to access the tables and chart.

The chapter consists of the following topics:

L:C Chart

Use this chart to see the load to capacity percentages for the workcenters in the plant. The chart is sorted in descending order of the load to capacity. The chart shows you workcenters that are potentially overloaded and balances that you must resolve.
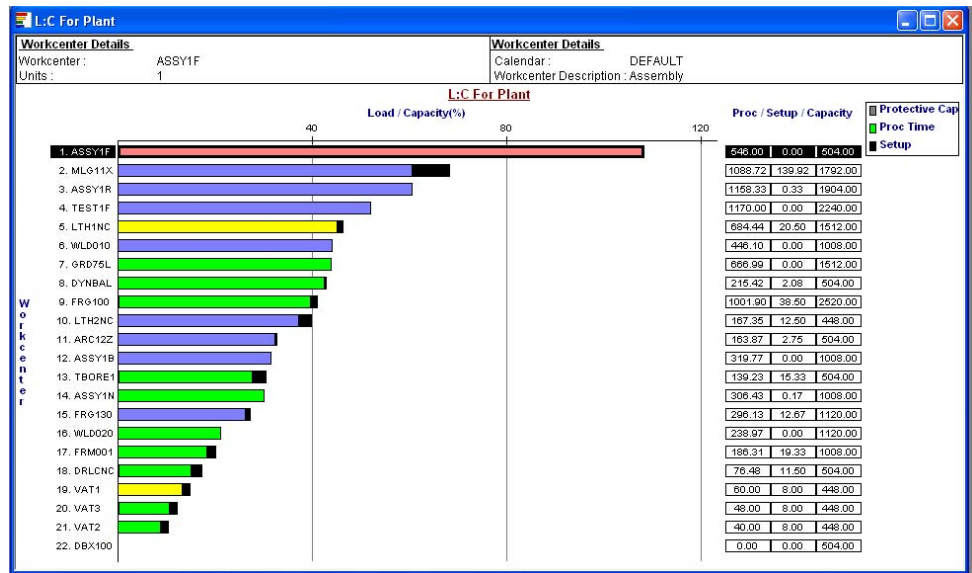
The bar chart uses these color codes:

- Red if the load is greater than the capacity over the planning horizon

- Yellow if capacity exceeds load for the entire horizon but the cumulative load exceeds the cumulative capacity during a time period within the horizon

- Blue if one period over the horizon is overloaded but there is no cumulative period overloaded anywhere within the horizon

- Green if the load never exceeds capacity throughout the horizon.

You can specify setup percentage as a percentage of the total load in the Workcenter table.

Actions

Select a workcenter and right-click to see the available actions.

Set Telescopic buckets. You can the bucket size and the number of buckets using a dialog box.

Drill Downs

Select a workcenter and right-click to see the available tables and charts:

- Items Load
- Orders Window
- Time Phased L:C

Items Load

Use this chart to see the load in hours contributed by each item to the overall load of the workcenter in a bucket. You can also see the quantity each item is short. The Percent column shows the percentage of the total load contributed by each item.
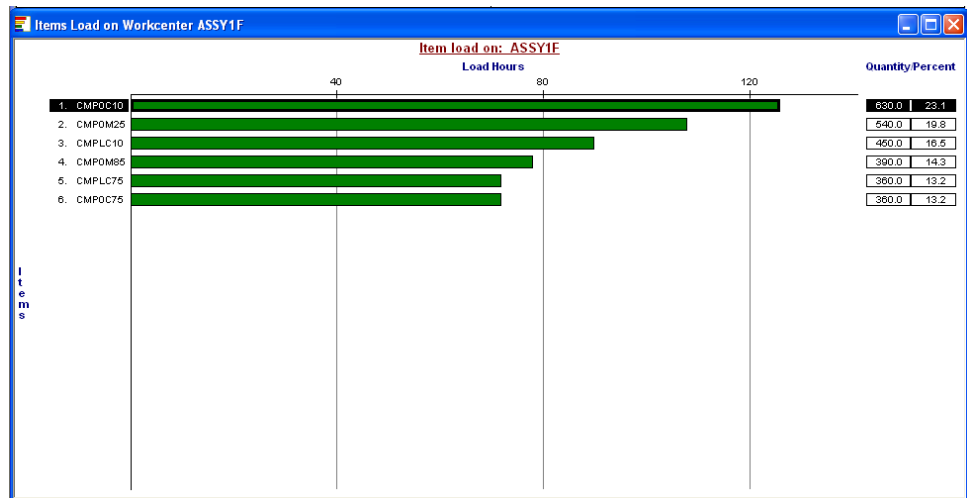
When you reach this window from a specific bucket rather than an entire horizon, you see the information for that specific bucket.

Actions

Select an item and right-click to see the available actions:

- Identify as Control Item - If your ERP product supports control items as used in VPi, right-click to identify the item as a control item.

- Sort by item or load

Drill Downs

Select an item and right-click to see the available tables and charts:

- Orders Window. Display orders sorted by workcenter and part.

- Supply Demand for Item. Display orders sorted by Part ID.

Orders Window

The information displayed on the Orders window depends upon which chart or table you used to access the Orders window. Use the Orders window to see information dependent upon from where you reached this window. You can get to this window from these charts and tables:

- L: C for plant
- Time phased L: C
- Items Load
- Specific Item List Filter

	Order Type	Ord ID	Item	Item Type	Item Description	Qty	Start Date	Due Date	Sugg Date	Source	Source Item	Analyst/Buyer	Cust/Vend	Load	Setup Time	%	Lateness
1	Rel	MO19	CMP0C10	Control Mfg	COMPRESSOR-10	90.00	05/04/2010	05/05/2010	05/06/2010	ORD017	CMP0C10	AN3		18.00	0.00	3.30	0.00
2	Rel	MO94	CMP0C10	Control Mfg	COMPRESSOR-10	90.00	05/06/2010	05/07/2010	05/06/2010	ORD017	CMP0C10	AN3		18.00	0.00	3.30	0.00
3	Rel	MO21	CMP0M25	Control Mfg	COMPRESSOR-M25	90.00	05/11/2010	05/12/2010	05/11/2010	ORD031	CMP0M25	AN3		18.00	0.00	3.30	0.00
4	Rel	MO20	CMP0C75	Control Mfg	COMPRESSOR-75	90.00	05/12/2010	05/13/2010	05/13/2010	ORD022	CMP0C75	AN3		18.00	0.00	3.30	0.00
5	Rel	MO23	CMPLC10	Control Mfg	COMPRESSOR-LC10	90.00	05/10/2010	05/11/2010	05/13/2010	ORD046	CMPLC10	AN4		18.00	0.00	3.30	0.00
6	Plnd		CMP0C75	Control Mfg	COMPRESSOR-75	90.00	05/12/2010	05/13/2010	05/13/2010	ORD022	CMP0C75	AN3		18.00	0.00	3.30	0.00
7	Firm	FM000020	CMP0M85	Control Mfg	COMPRESSOR-M85	120.00	05/13/2010	05/14/2010	05/14/2010	ORD036	CMP0M85	AN4		24.00	0.00	4.40	0.00
8	Rel	MO95	CMP0C10	Control Mfg	COMPRESSOR-10	90.00	05/07/2010	05/10/2010	05/17/2010	ORD014	CMP0C10	AN3		18.00	0.00	3.30	0.00
9	Rel	MO24	CMPLC75	Control Mfg	COMPRESSOR-LC75	90.00	05/06/2010	05/07/2010	05/17/2010	ORD053	CMPLC75	AN4		18.00	0.00	3.30	0.00
10	Plnd		CMPLC10	Control Mfg	COMPRESSOR-LC10	90.00	05/17/2010	05/18/2010	05/18/2010	ORD047	CMPLC10	AN4		18.00	0.00	3.30	0.00
11	Plnd		CMPLC10	Control Mfg	COMPRESSOR-LC10	90.00	05/18/2010	05/19/2010	05/19/2010	ORD048	CMPLC10	AN4		18.00	0.00	3.30	0.00
12	Plnd		CMP0C75	Control Mfg	COMPRESSOR-75	90.00	05/19/2010	05/20/2010	05/20/2010	ORD023	CMP0C75	AN3		18.00	0.00	3.30	0.00
13	Plnd		CMPLC75	Control Mfg	COMPRESSOR-LC75	90.00	05/19/2010	05/20/2010	05/20/2010	ORD054	CMPLC75	AN4		18.00	0.00	3.30	0.00
14	Plnd		CMP0M25	Control Mfg	COMPRESSOR-M25	90.00	05/20/2010	05/21/2010	05/21/2010	ORD029	CMP0M25	AN3		18.00	0.00	3.30	0.00
15	Plnd		CMP0M85	Control Mfg	COMPRESSOR-M85	90.00	05/21/2010	05/24/2010	05/24/2010	ORD039	CMP0M85	AN4		18.00	0.00	3.30	0.00
16	Plnd		CMP0C10	Control Mfg	COMPRESSOR-10	90.00	05/24/2010	05/25/2010	05/25/2010	ORD015	CMP0C10	AN3		18.00	0.00	3.30	0.00
17	Plnd		CMP0M25	Control Mfg	COMPRESSOR-M25	90.00	05/25/2010	05/26/2010	05/26/2010	ORD030	CMP0M25	AN3		18.00	0.00	3.30	0.00
18	Plnd		CMP0C10	Control Mfg	COMPRESSOR-10	90.00	05/27/2010	05/28/2010	05/28/2010	ORD018	CMP0C10	AN3		18.00	0.00	3.30	0.00
19	Plnd		CMPLC10	Control Mfg	COMPRESSOR-LC10	90.00	05/28/2010	05/31/2010	05/31/2010	ORD050	CMPLC10	AN4		18.00	0.00	3.30	0.00
20	Plnd		CMP0M25	Control Mfg	COMPRESSOR-M25	90.00	06/01/2010	06/02/2010	06/02/2010	ORD032	CMP0M25	AN3		18.00	0.00	3.30	0.00
21	Plnd		CMP0M85	Control Mfg	COMPRESSOR-M85	90.00	06/01/2010	06/02/2010	06/02/2010	ORD041	CMP0M85	AN4		18.00	0.00	3.30	0.00
22	Plnd		CMP0C75	Control Mfg	COMPRESSOR-75	90.00	06/02/2010	06/03/2010	06/03/2010	ORD025	CMP0C75	AN3		18.00	0.00	3.30	0.00
23	Plnd		CMPLC10	Control Mfg	COMPRESSOR-LC10	90.00	06/02/2010	06/03/2010	06/03/2010	ORD051	CMPLC10	AN4		18.00	0.00	3.30	0.00
24	Plnd		CMP0M25	Control Mfg	COMPRESSOR-M25	90.00	06/03/2010	06/04/2010	06/04/2010	ORD033	CMP0M25	AN3		18.00	0.00	3.30	0.00
25	Plnd		CMPLC75	Control Mfg	COMPRESSOR-LC75	90.00	06/03/2010	06/04/2010	06/04/2010	ORD056	CMPLC75	AN4		18.00	0.00	3.30	0.00
26	Plnd		CMP0C10	Control Mfg	COMPRESSOR-10	90.00	06/07/2010	06/08/2010	06/08/2010	ORD020	CMP0C10	AN3		18.00	0.00	3.30	0.00
27	Plnd		CMP0C10	Control Mfg	COMPRESSOR-10	90.00	06/09/2010	06/10/2010	06/10/2010	ORD021	CMP0C10	AN3		18.00	0.00	3.30	0.00
28	Plnd		CMP0M25	Control Mfg	COMPRESSOR-M25	90.00	06/09/2010	06/10/2010	06/10/2010	ORD035	CMP0M25	AN3		18.00	0.00	3.30	0.00
29	Plnd		CMP0M85	Control Mfg	COMPRESSOR-M85	90.00	06/09/2010	06/10/2010	06/10/2010	ORD044	CMP0M85	AN4		18.00	0.00	3.30	0.00
30	Plnd		CMPLC75	Control Mfg	COMPRESSOR-LC75	90.00	06/09/2010	06/10/2010	06/10/2010	ORD058	CMPLC75	AN4		18.00	0.00	3.30	0.00

The orders window displays this information:

Order Type

VPi uses these order types:

- Rel – Released manufacturing order
- Plnd – Planned order
- Firm – Firm planned order
- Pur – Purchase order
- Sales orders

Order ID

The work order ID for released manufacturing orders; the purchase order ID for released purchase orders; the order ID for independent orders.

Item ID

Item Type

VPi uses these item types:

- Control - Mfg
- Non-Control mfg
- Control - Purchase
- Non-control purchase

Due Date

The current due date of the order.

Suggested Date

The requirement date for supply orders and suggested due date, assuming firm supply for independent demand. If the suggested date is the maximum date, blue appears for supply order. The default (white) appears for demand orders. If the suggested date is less than the order due date, red appears for supply orders and yellow appears for demand orders. If the suggested date is greater than the order due date, yellow appears for supply orders and red appears for demand orders. Note that the red and yellow conditions are reversed for supply and demand orders.

Source

The parent work order ID that causes the greatest exception for this supply, or, if this supply feeds independent demand, the Demand order ID.

Source Item

The item ID associated with supply in the Source column. If you are seeing supply at a lower level, this field contains the Part ID of the parent item that drives this supply. For independent orders, the same value as the item ID field.

Analyst/Buyer ID

The analyst or planner for the part if it is a make part. If it is a purchase part, the buyer for this part.

Customer/Vendor

If this is an independent customer order, the customer from the order was received. If this is a purchase order, the vendor who has the purchase order.

Load

Information is displayed only if you reached this display from the load to capacity chart.

Load %

Information is displayed only if you reached this window from the load to capacity chart.

Legend

The color coding shows that the row is expedited, deferred, or cancelled.

Actions

Right-click to see the actions.

- Outsource – Change the work order from a make route to a purchase route.

- Alternate Route – Available only for firm or planned orders that have alternate routes.

- Offload – Change the work center for one operation. Available only for released orders because there are no specific routes for firm or planned orders

- Re-Schedule Supply – Available only for control items. The due date of the supply is rescheduled to the earliest required date of the supply.

- Modify Supply – Modify the due date and process for an existing firm supply. Planned supplies are firmed up in the process. If you modify a planned or firm supply date, you can also modify the quantity and the re-schedule code. If you modify a released supply, you can only modify the due date and re-schedule code.

- Level Load – Change the due date of the supply within the same work center.

- Re-Schedule Requirement – Available from all released and firm planned supplies for control items. You can reschedule the due date of the parent item supplies and their parents. Forward scheduling is based on minimum queue times on facilities and not on typical queue times.

- Re-Schedule All Requirements – Reset all requirement dates based on the due date of all the supplies in this window.

- Identify Control items – You can identify additional control items during the planning session.
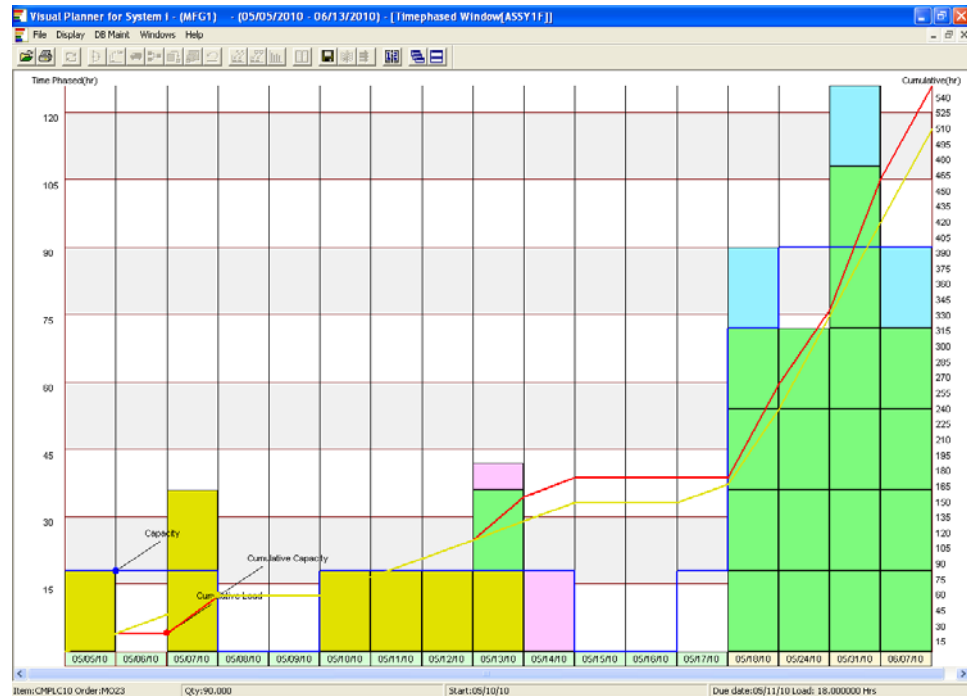
Drill Downs

Select an order and right-click to see the available tables and charts:

- Supply Demand for Item: For the item associated with the supply or demand order.

- Waterfall – Pegged Orders

- Waterfall – Feeding Supplies

Time Phased L:C

Use the time phased orders window to see the bucket L: C in user-defined buckets.

The chart uses these colors to identify the types of order:

- Green – Planned Orders

- Blue – Planned Orders available for Alternate Route option

- Pink – Firm Planned Orders

- Yellow – Released Orders

The chart uses these color lines to indicate capacity and load:

- Blue indicates the capacity in the bucket

- Red is the cumulative load line

- Yellow is the cumulative capacity line

If the cumulative load exceeds the cumulative capacity, the bar for the workcenter is colored red in the L:C chart.

To adjust the load, you can drag-and-drop an order from one bucket another. Select Display > Undo to reverse changes.

You can determine the L: C ratio and imbalances that need to be addressed from this screen. You can preview a printout of the time-phased orders chart for extended horizons.

To print the time-phased orders chart for an extended horizon:

1   Right-click and select Print Setup.

2   Specify the bucket print range. Click OK.

3   Use your printer properties dialog to specify Landscape view.

4   Click OK to print the chart.

The due date of the supplies determine the bucket in which the load is generated.

The maximum lot size has an impact on time-phased load calculations. For example, you have a demand of 190 pieces. The maximum lot size is 25. SCM splits the demand into 8 small demands with same due date which generate 8 almost identical tasks on the work center. These demands have the same schedule start and end dates (except the final one) which causes an overload.

Actions

Select an order and right-click to see the available actions:

- Alternate Route Order – Available only for firm or planned orders that have alternate routes. Indicated by blue planning blocks on the Time Phased window.

- Offload – Change the work center for one operation. Available only for released orders since there are no specific routes for firm or planned orders

- Outsource – Change the work order from a make route to a purchase route

- Re-Schedule Supply – Available only for control items. The due date of the supply is rescheduled to the earliest required date of the supply.

- Modify Supply – Modify the due date and process for an existing firm supply. Planned supplies are firmed up in the process. If you modify a planned or firm supplies date, you can also modify the quantity and the

re-schedule code. If you modify a released supply, you can only modify the due date and re-schedule code.

- Level Load – Change the due date of the supply within same work center.

- Re-Schedule Requirement – Available from all released and firm planned supplies for control items. You can reschedule the due date of the parent item supplies and their parents. Forward scheduling is based on minimum queue times on facilities and not on typical queue times.

- Identify Control items – You can identify additional control items during the planning session. Your decisions are saved back to your ERP and are downloaded the next time that you load a project.

- Modify Operation Delay Time – Add buffer time between two jobsteps to allow the Order Due Date and downstream jobsteps to keep the current completion date while rescheduling a critical upstream job step to avoid a bottleneck. This action is only active for released manufacturing orders.

Maintaining stability of the time phased chart

VPi maintains the stability of time phase L: C when you take actions in the this window.

- If load is moved forward from one bucket to another then the item has to be declared a control item. In addition all planned supplies due earlier than this supply are firmed up. If this is not done then the newly rescheduled supply is expedited in and additional planned supplies take its place.

- If the item is a control item and the load is moved backward (earlier) from one bucket to another, the supply order and other planned supplies for that item between the moved-to bucket and the moved-from bucket are set to reschedule code 5. The reschedule code for firm and released supply is not modified.

- If the item is not a control item, the supplies within the two bucket ranges are firmed up and are set to a type 5 supply. This applies to all planned, firm, or released supply orders.

To avoid seeing all exception conditions on the engine, the difference between the planned dates and the moved to date is stored as an offset for the work order. The user has the option to hide exceptions within offset.

Drill downs

Select an order and right-click to see the available tables and charts:

- Waterfall – For a specific supply order.

- Supply Demand for Item – For the item associated with the supply or demand order.

- Orders Window – If the time-phased L:C appears as a table, you can see the orders for a specific bucket.

Supply Demand for Item

Use this window to see the pegging information between supply orders and demand orders for an item. The window shows one level pegging between an item and its immediate parents.

The window displays this information:

Supply ID

The window displays the supply type:

- The work order ID for released orders

- The purchase order ID if the route is a purchase route

- Firm if it is firm planned order

- Plnd if it is a planned order.

Qty

The quantity of the supply order that is remaining or pending.

Start Date

The current start date associated with the workorder. For PO orders this field is set equal to end date.

Due Date

The current due date of the supply. If you re-scheduled the order, this date is set equal to the suggested due date. For PO routes, the due date is the dock date.

Load

Appears only when you reach this window from the load to capacity chart. The load placed by this supply in the bucket being drilled down.

Load %

The percentage of load in the bucket generated by this supply.

Suggested Due Date

The recommended due date of the supply to meet shortages in supply. Also, excess supply

Projected On Hand

The supply on hand + quantity on release or firm supply up to bucket date. The required quantity up to bucket date. Supply availability is calculated based on the due date, not the suggested due date.

Required Date

The due date of the requirement.

Required Quantity

The quantity pegged to a specific requirement.

Peg To

The order ID of the independent demand if this item has an independent demand. If this is a customer order, a combination of the Order ID field and the Line number field in the Sales table. If the item is lower in the BOM and this supply feeds into a firm order or released order of a higher-level item, that information appears here. If the supply feeds into a planned order, the word Planned appears here.

Item

The item driving the requirement.

Item Description

The description of the item.

Analyst/Customer ID

The customer ID for the sales order or forecast order, if available. Alternatively, the Planner ID of the item this supply feeds into.

Due Date

The current due date of the independent order if the supply feeds into an independent order. Or, the start date of the planned, firm, or released work order this supply feeds into.

Suggested Due Date

The recommended due date of the independent order or supply this order feeds into based on shortages for this item. An earlier due date is not suggested if the supply is available earlier than the required date; the suggested due date is set equal to the due date.

Actions

Select an order and right-click to see the available actions:

- Alternate Route Order – Available only for firm or planned orders that have alternate routes.

- Offload – Change the work center for one operation. Available only for released orders because firm or planned orders do not have specific routes.

- Outsource – Change the work order from a make route to a purchase route.

- Re-Schedule Supply – Change the due date to a suggested to due date for this supply.

- Modify Supply – Modify the due date and process for an existing firm supply. Planned supplies are firmed up in the process.

- Level Load – Change the due date of the supply within same work center.

- Re-Schedule Requirement – Reset requirement dates based on the due date of supply.

- Re-Schedule All Requirements – Reset all requirement dates based on due date of all the supplies in this window.

Drill downs

Select a workcenter and right-click to see the available tables and charts:

- Waterfall – Pegged Orders
- Waterfall – Feeding Supplies
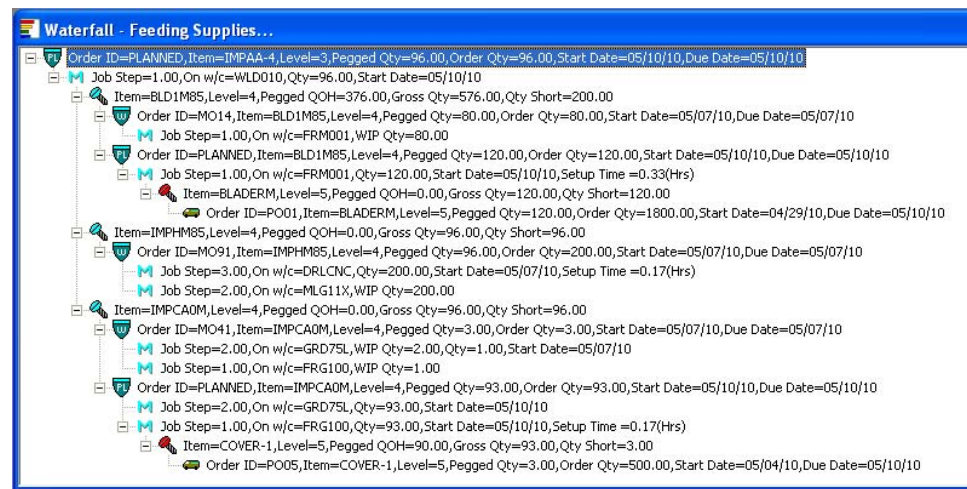
Waterfall Charts

Pegged Orders and Feeding Supplies waterfall charts are available.

The Pegged Orders chart shows the level-by-level pegging between a supply order and its parent orders all the way to the independent demand.
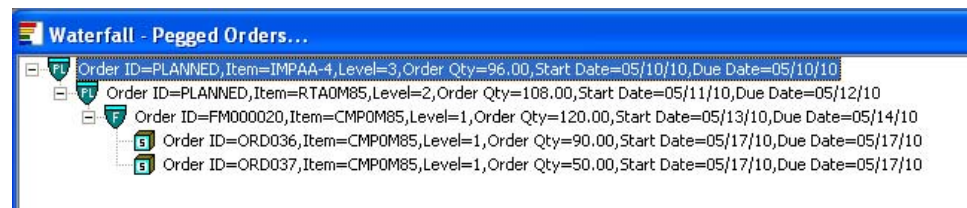
Feeding Supplies shows the component shortages for a specific supply and the supplies available to satisfy them.

▪ "Show Everything" displays the entire production plan involved in building this item

▪ "Show Material Shortages" allows the planner to quickly identify material shortages

For each item you can see the gross quantity, the quantity on hand, and the quantity short. You can also see the planned and firm supply available to satisfy the requirements.

The waterfall charts use these icons:

▪ Interstate symbol with W – Released work order

- Interstate symbol with PL – Planned work order
- Interstate symbol with F – Firm planned order
- Screw – Item level information. Red indicates control items
- Truck – Released purchase order
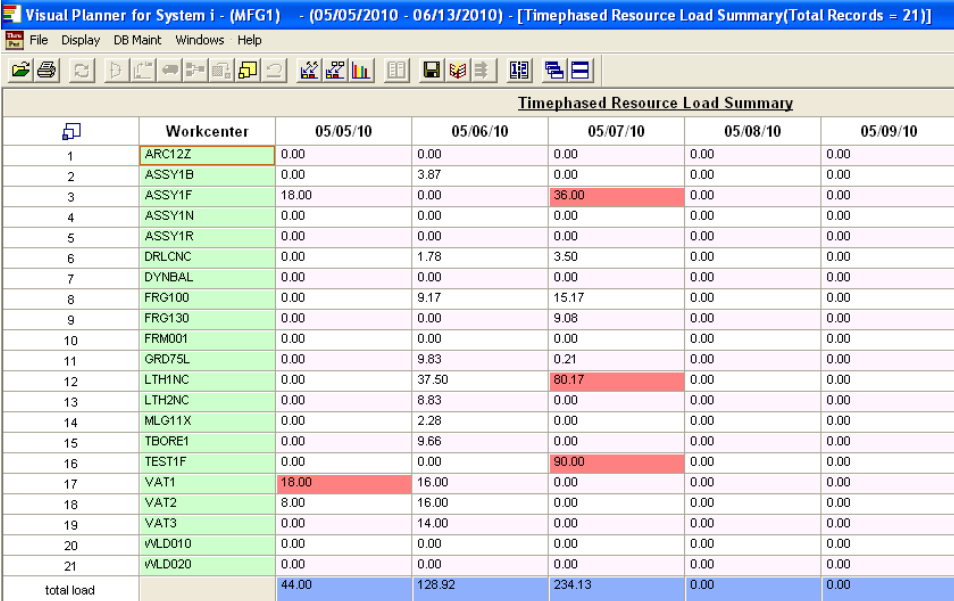- B – Planned purchase order.

Display supply-demand summary

This option is listed on the Display drop down list. Use this tool when you want to go directly to the Supply Demand window for a specific item. It is an excellent way to quickly pull all planning information for a purchased item.

Time-phased load summaries

VPi includes summary windows for workcenter load and labor load. These options display the time-phased load profile on all work centers in a single tabular display. Each row represents one work center and each planning bucket is defined as Days, Weeks or Months. Buckets are color-code red if load exceeds capacity. You can export these tables to Microsoft Excel.
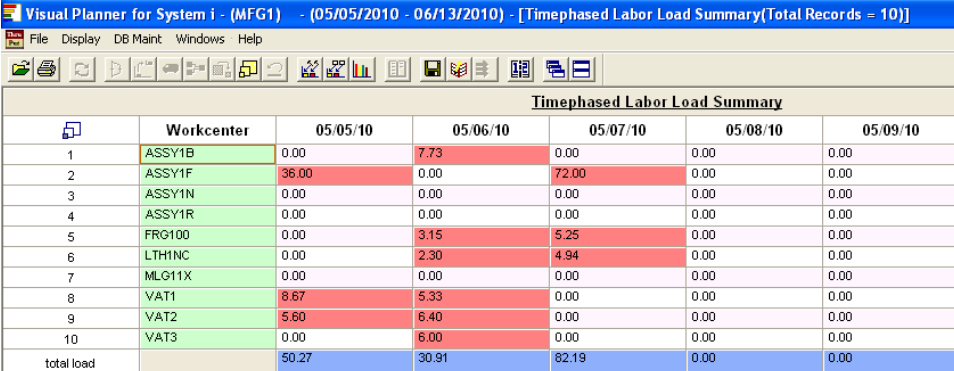
Access the workcenter summary from the menu bar. Select Display > Timephased Workcenter Load Summary.

Visual Planner for System i - (MFG1) - (05/05/2010 - 06/13/2010) - [Timephased Resource Load Summary(Total Records = 21)]

File Display DB Maint Windows Help

Timephased Resource Load Summary

	Workcenter	05/05/10	05/06/10	05/07/10	05/08/10	05/09/10
1	ARC12Z	0.00	0.00	0.00	0.00	0.00
2	ASSY1B	0.00	3.87	0.00	0.00	0.00
3	ASSY1F	18.00	0.00	36.00	0.00	0.00
4	ASSY1N	0.00	0.00	0.00	0.00	0.00
5	ASSY1R	0.00	0.00	0.00	0.00	0.00
6	DRLCNC	0.00	1.78	3.50	0.00	0.00
7	DYNBAL	0.00	0.00	0.00	0.00	0.00
8	FRG100	0.00	9.17	15.17	0.00	0.00
9	FRG130	0.00	0.00	9.08	0.00	0.00
10	FRM001	0.00	0.00	0.00	0.00	0.00
11	GRD75L	0.00	9.83	0.21	0.00	0.00
12	LTH1NC	0.00	37.50	80.17	0.00	0.00
13	LTH2NC	0.00	8.83	0.00	0.00	0.00
14	MLG11X	0.00	2.28	0.00	0.00	0.00
15	TBORE1	0.00	9.66	0.00	0.00	0.00
16	TEST1F	0.00	0.00	90.00	0.00	0.00
17	VAT1	18.00	16.00	0.00	0.00	0.00
18	VAT2	8.00	16.00	0.00	0.00	0.00
19	VAT3	0.00	14.00	0.00	0.00	0.00
20	WLD010	0.00	0.00	0.00	0.00	0.00
21	WLD020	0.00	0.00	0.00	0.00	0.00
total load		44.00	128.92	234.13	0.00	0.00

Access the labor summary from the menu bar. Select Display > Timephased Labor Load Summary.

Visual Planner for System i - (MFG1) - (05/05/2010 - 06/13/2010) - [Timephased Labor Load Summary(Total Records = 10)]

File Display DB Maint Windows Help

Timephased Labor Load Summary

	Workcenter	05/05/10	05/06/10	05/07/10	05/08/10	05/09/10
1	ASSY1B	0.00	7.73	0.00	0.00	0.00
2	ASSY1F	36.00	0.00	72.00	0.00	0.00
3	ASSY1N	0.00	0.00	0.00	0.00	0.00
4	ASSY1R	0.00	0.00	0.00	0.00	0.00
5	FRG100	0.00	3.15	5.25	0.00	0.00
6	LTH1NC	0.00	2.30	4.94	0.00	0.00
7	MLG11X	0.00	0.00	0.00	0.00	0.00
8	VAT1	8.67	5.33	0.00	0.00	0.00
9	VAT2	5.60	6.40	0.00	0.00	0.00
10	VAT3	0.00	6.00	0.00	0.00	0.00
total load		50.27	30.91	82.19	0.00	0.00

To export a time-phased load summary to Microsoft Excel:

1 Select the required columns or click on the icon in the first row of the first column to select all columns. .

2 Right click on the first row and select Export.

3 Use the standard Windows dialogs to enter a file name and select the Excel file format.

Customer order options

VPi provides options to select and work with requirements to be pushed out. These windows list the orders affected by level loading on a workcenter:

- Which Orders to Push Out

- Which Customer Orders to Push Out

- List of Customer Orders Pushed Out

In VPi, you have the option to level load a workcenter by rescheduling work orders. If you reschedule work orders, the customer orders will also be delivered later. Because some customer orders are very important and their promise dates need to be honored, you need visibility to the orders affected by scheduling on a workcenter.

Rather than go to either the Supply Demand detail screen to see the pegged customer order or to the Waterfall View of Pegged Orders, you can display the orders in a table. The summary list allows you to reschedule the customer orders of choice.

The Which Orders to Push Out and Which Customer Orders to Push Out options provide tables that list the orders that potentially will be delayed based upon the current schedule. The table includes the Customer Name from the SC_CUSTOMER_MASTER table.

When you select Display on the menu bar, you are given several options for customer orders.
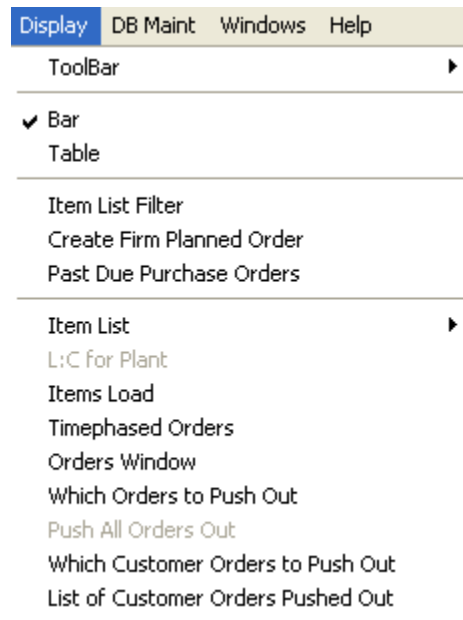
These options display records that are generated from within VPi:

- Items Load

- Timephased Orders

- Orders Window

- Which Orders to Push Out

- Push All Orders Out

These options display global records that are not limited to within VPi:

- Which Customer Orders to Push Out

- List of Customer Orders Pushed Out

Which Orders to Push Out is the same function as the Reschedule Requirement for control items. Push All Orders Out is the same function as Re-Schedule All Requirements for control items.

The following windows show the difference between "Which Orders to Push Out" and "Which Customer Orders to Push Out. " The Supply Demand window displays all the dates. The results will vary if buffers are involved.

Visual Planner for System i - (MFG1)   - (05/01/2002 - 06/09/2002)

File   Display   DB Maint   Windows   Help

Supply Demand Window[CMP0M85][COMPRESSOR-M85] - Min[90.00] , Mult[0.00] , Agg[0]

	Supply ID	Qty	Start Date	Due Date	Load	%	Sugg Due Date	Proj On Hand	Reqd Date	Reqd Qty	Peg To	Item	Item Description	Ana/Cust	Due Date	Sugg Date
1 (*)	Firm	90.00	05/13/02	05/14/02	0.00	0.00	05/09/02	90.00								
2								0.000	05/10/02	90.000	ORD036_101	CMP0M85	COMPRESSOR-M85	HONDA	05/10/02	05/14/02
3	Firm	120.00	05/15/02	05/16/02	0.00	0.00	05/14/02	120.00								
4								70.000	05/15/02	50.000	ORD037_102	CMP0M85	COMPRESSOR-M85	HONDA	05/15/02	05/16/02
5								34.000	05/20/02	36.000	ORD038_103	CMP0M85	COMPRESSOR-M85	HONDA	05/20/02	05/20/02
6	Plnd	90.00	05/20/02	05/21/02	0.00	0.00	05/21/02	124.00								
7								81.000	05/22/02	43.000	ORD039_104	CMP0M85	COMPRESSOR-M85	HONDA	05/22/02	05/22/02
8								27.000	05/28/02	54.000	ORD040_105	CMP0M85	COMPRESSOR-M85	HONDA	05/28/02	05/28/02
9								0.000	06/03/02	27.000	ORD042_107	CMP0M85	COMPRESSOR-M85	HONDA	06/03/02	06/03/02
10	Plnd	90.00	05/30/02	05/31/02	0.00	0.00	05/31/02	90.00								
11								46.000	06/03/02	44.000	FORECAST	CMP0M85	COMPRESSOR-M85		06/03/02	06/03/02
12								2.000	06/05/02	44.000	ORD041_106	CMP0M85	COMPRESSOR-M85	HONDA	06/05/02	06/05/02
13	Plnd	90.00	06/04/02	06/05/02	0.00	0.00	06/05/02	92.00								
14								66.000	06/06/02	26.000	ORD043_108	CMP0M85	COMPRESSOR-M85	HONDA	06/06/02	06/06/02
15	Plnd	90.00	06/06/02	06/07/02	0.00	0.00	06/07/02	156.00								
16								79.000	06/10/02	77.000	ORD044_109	CMP0M85	COMPRESSOR-M85	HONDA	06/10/02	06/10/02

List Of Potential Orders with Late Delivery[ASSY1F]

	Order Type	Ord ID	Customer ID	Customer Name	Item	Item Type	Qty	Source Item	Start Date	Due Date	Sugg Date	Days
1 (*)	Rel	MO19	GM	GENERAL MOTORS	CMP0C10	Non-Control Mfg	90.00	CMP0C10	04/29/2002	04/30/2002	04/30/2002	1
2	Firm	F000001	HONDA	HONDA GENSET	CMP0M85	Control Mfg	90.00	CMP0M85	05/13/2002	05/14/2002	05/09/2002	3
3	Firm	FO22	HONDA	HONDA GENSET	CMP0M85	Control Mfg	120.00	CMP0M85	05/15/2002	05/16/2002	05/14/2002	2

The window above, "Which Orders to Push Out, " works with the current workcenter and lists potential late orders for a workcenter. The potentially late orders are the Supply Orders where "Supply Due Date" > "Supply Suggested Date" (records shown in red in Supply Demand window).

The window below "Which Customer Orders to Push Out " is global and lists only Customer Orders where Demand Suggested Date > Demand Due Date.

Visual Planner for System i - (MFG1)   - (05/05/2010 - 06/13/2010) - [List Of Potential Orders with Late Delivery]

File   Display   DB Maint   Windows   Help

	Ord ID	Item	Customer ID	Customer Name	Qty	Target Completion	Current Completion	Projected Completion	Days
1 (*)	ORD045	CMP0C75	515	HARDIN	52.00	05/16/2010	05/16/2010	05/17/2010	1
2 (*)	ORD022	CMP0C75	117	REEVES	125.00	05/16/2010	05/16/2010	05/17/2010	1
3 (*)	ORD007	BLD1C75	111	KENDALL	35.00	05/16/2010	05/16/2010	05/17/2010	1
4 (*)	ORD047	CMPLC10	444	ACME	43.00	05/19/2010	05/19/2010	05/21/2010	2
5 (*)	ORD048	CMPLC10	444	ACME	76.00	05/20/2010	05/20/2010	05/21/2010	1
6 (*)	ORD054	CMPLC75	444	ACME	43.00	05/22/2010	05/22/2010	05/24/2010	2
7 (*)	ORD029	CMP0M25	515	HARDIN	55.00	05/24/2010	05/24/2010	05/27/2010	3
8 (*)	ORD070	IMPAS-3	800	J&J	15.00	05/24/2010	05/24/2010	05/25/2010	1
9 (*)	ORD039	CMP0M85	515	HARDIN	43.00	05/25/2010	05/25/2010	05/27/2010	2
10 (*)	ORD030	CMP0M25	515	HARDIN	81.00	05/27/2010	05/27/2010	05/28/2010	1
11 (*)	ORD073	IMPCA0M	800	J&J	3.00	06/01/2010	06/01/2010	06/02/2010	1
12 (*)	ORD025	CMP0C75	117	REEVES	80.00	06/06/2010	06/06/2010	06/07/2010	1
13 (*)	ORD033	CMP0M25	117	REEVES	74.00	06/07/2010	06/07/2010	06/09/2010	2
14 (*)	ORD035	CMP0M25	117	REEVES	50.00	06/12/2010	06/12/2010	06/14/2010	2

Customer orders that are rescheduled are displayed from the option List of Customer Orders Pushed Out.

	Order ID	Part ID	Customer ID	Customer Name	Qty Due	Target Completion	Current Completion	Days
1	ORD022_153	CMP0C75	117	REEVES	125	05/16/2010	05/17/2010	1
2	ORD045_167	CMP0C75	515	HARDIN	52	05/16/2010	05/17/2010	1

Item List Filter

Use this tool to see the status of your critical parts right away. You can filter critical items based on either supply or independent orders. You can save multiple templates to the database. These templates are loaded and appear when you select Display > Item List.

A quick way to view supply demand for an item is to select a specific item from the Item drop down list in this window.

Fields

Specify the following information to create a template:

Template name

After you have determined your search information, type a name, for example, Purchase Exceptions, and click Save. To use a saved template, select Display > Item List. To use a particular template as a starting point for

another template for a new type of search, select the template, make your changes, and then click Save As.

Item ID

Select an item.

Make Items

Select Y (default) to display manufactured items.

Purchase Items

Select N to display purchase items.

Planner ID/Buyer ID

Select an Analyst ID. The default is ALL. If you select purchase items, this is a list of buyer IDs. If you select make items, this is a list of Analyst IDs. If you select both, this is a list of both with duplicates eliminated.

Control Items

Select Y, N, or Ignore (default). If you select yes, only control items (items with a reschedule flag of 1, 2, or 3 in the Item table) appear. If you select no, only non-control items appear. If you select Ignore, items are selected regardless of control code.

Specify the following information on the Supply Orders tab:

Show Items with past due > =

Enter 0 or any positive whole number. If you select supply orders, only those items with a start date greater than the number of days before the horizon start that you select here appears. If you select demand orders, those items with a due date in the past of more than the number of days that you select here appears.

Show Items with Expedites > =

Enter 0 or any positive whole number. Available only for supply orders. Only those items with a supply due date more than the number of days you select here later than the required date appear.

Show Items with Defers > =

Enter 0 or any positive whole number. Available only for supply orders. Those items with a supply due date earlier than the number of days you select here than the required date are added to the list of items.

Show Items with Cancel orders

Select Y (default) or N. Available only for supply orders. If you select Y, items with orders recommended for cancellation are added to the list of items if they are not already on the list. If you select N, items are added to the list regardless of the presence or absence of cancel orders.

Show Items with Exceptions within Offset

Select Y (default) or N. Available only for supply orders. Offset is the number of days a supply is moved in or out in order to balance load to capacity. This often creates an exception condition, if the order due date no longer matches its required date. To avoid seeing these messages on the engine during planning, select N. Items then are added to the item list only if defer or expedite exceptions are greater than the offset value. If you select Y, item deferrals and expedite exceptions are added to the list, even if their exceptions are less than the offset value.

Show Items with planned orders within frozen Zone

Select Y (default) or N. Available only for supply orders. If you select Y, items with planned orders within the period are added to the list of items if they are not already there. If you select N, items are added to the list without checking for planned orders within the frozen period.

Specify the following information on the Demand Orders tab:

Customer Orders > =

Enter any positive whole number. Available only for demand orders. Only those items with customer orders with projected completion more than the number of days you select here than the due date appear.

Forecast Orders > =

Enter any positive whole number. Available only for demand orders. Only those items with forecast orders with projected completion more than the number of days you select here than the due date appear.

Safety Stock Orders > =

Enter any positive whole number. Available only for demand orders. Only those items with safety stock orders with projected completion more than the number of days you select here than the due date appear.

Show past due > =

Enter 0 or any positive whole number. If you select supply orders, only those items with a start date greater than the number of days you select here

before the horizon start appear. If you select demand orders, items with a due date in the past more than the number of days you select here appear.

Actions

The following buttons are available from this window:

- **OK** Save template changes to memory, but not to the database.
- **Cancel** Do not save you entries and exit the Item List Filter.
- **Save** Save changes to the template to the memory and to the database.
- **Save As** Save this new template to the memory and the database with a user-defined template name.
- **Delete** Delete the current template from the database, effective the next session. The template is not deleted from memory as some windows use the template.

Examples

To see purchase parts for control items with orders more than 3 days past due or cancel orders, complete the window as follows:

To see items with customer orders that are late by more than 3 days, but not those items with safety stock or customer orders, complete as follows:

View Log

Use this function to save the decisions made in the planning session. You can view and print the log of your decisions.

Undo

You can undo most of your actions; however, you cannot undo change requirements and change all requirements decisions. To undo those actions, load the project again. See "Load project" for more information.

Using the toolbar

The toolbar provides some of the same options that are available from menus and some additional options.

The following functions are available from the VPi toolbar:

Load project. Use this icon to load the project into memory.

Print the screen that is in focus. Click to print the active window.

Refresh all VPi views. Use this option after you make a change to the plan to run a planning explosion that includes your changes.

Alternate Route. This icon is available for planned and firm planned supplies with multiple processes.
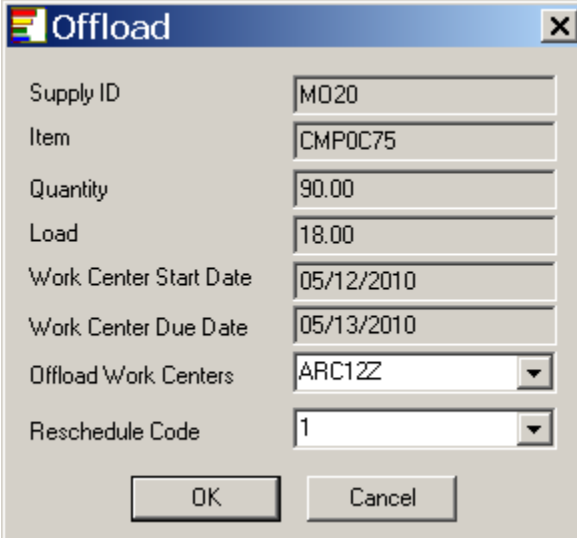
The definition of an alternate route depends on data downloaded from your ERP product. An alternate route can be the substitution of an operation in a

route or the alternate route can be a complete replacement for the original route.

You can enter the due date of the supply and display the available alternate processes. You then set the reschedule code for the supply. If a planned supply is alternate routed, the supply is firmed up. This information is uploaded to the System i and downloaded for the next planning session.

Offload. Use this icon to perform offload decisions on released work orders. Alternate workcenters defined in the route appear at the top of the alternate workcenters list. If the reschedule code is set to 5, you cannot modify the due date.
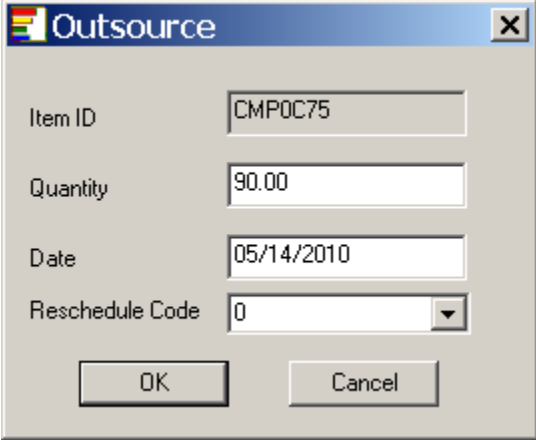
Outsource. Use this icon to create a purchase supply for a make item. If you outsource an item, you must manually contact your purchasing department to notify them of the order. The item ID is the part that will be outsourced. This window is displayed when you select Outsource:

Enter this information:

Quantity

Type in the quantity to be outsourced.

Date

Type in the day on which the material will be available in the dock.

Reschedule Code

Either 5 or other. If you set this code to 5, earlier requirements for this item are satisfied by generating planned manufacturing orders. Any other value reschedule behavior is based on the control item code for the item.

Modify supply. Use this window to maintain the quantity of a planned or firm planned order. This window is displayed when you select this icon:

Enter a new quantity and click OK.

 Level load. Use this icon to move loads from one bucket to another on the same workcenter. This window is displayed when you select this icon:

You can move the load from one bucket to another in the same workcenter. See "Maintaining decisions" for more information.

 Telescopic buckets. Use this icon to define a smaller planning window up front and longer planning window in the future. The default is weekly buckets. You type in the number of buckets for each bucket duration. This window is displayed when you select this icon:
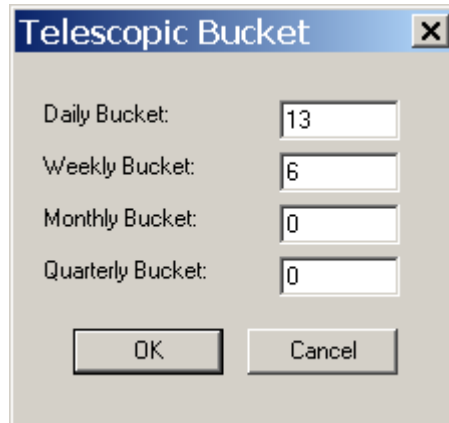
You can type in the number of buckets for each bucket duration.

Undo. Display the Undo Dialog to reverse a change that you made to the plan.

Items Load. Select a workcenter and click this icon to display the Items Load window.

Orders Window. Select a workcenter and click this icon to display the Orders Window.

Timephased Orders. Display the Timephased Window.

AP Log. Display a log of the actions taken during this planning session.

Save. Save your changes.

Write Schedule Pass. Save your changes to the Access database. The next time that you load the project, the last plan is loaded. Two dialogs are displayed. Accept the default values and click OK.

Push Out All Late Orders. This icon is active on the windows that list orders that may be late.

Calendar Maintenance. Access the windows to create or maintain calendars.

Cascade Windows, Tile Windows. Change the display of open windows.

Notes

Chapter 5 Uploading Data to the System i

<div style="text-align: right">**5**</div>

This chapter discusses the process to upload files to the System i after you have finished planning in VPi.

The chapter consists of the following topics:

Upload settings

The config,ini file is located in the folder into which you installed VPi. Use the parameters listed below to define the upload settings.

Parameter	Definition
PlannedWorkOrderOutputHorizonLength	Number of calendar days planned mfg orders are to be uploaded to the System i. Any number from 1 to 730; default = 7 days.
RawMatlReleaseOutputHorizonLength	Number of calendar days planned purchase orders are to be uploaded to the System i. Any number from 1 to 730; default = 7 days.
RequirementHorizonLen	Number of calendar days requirements are to be uploaded to the System. Any number from 1 to 730; default = 7 days.
NonDrumOutputHorizonLength	Number of calendar days requirements updating pegged requirements of Replenishment planning. Any number from 1 to 730; default = 7 days.

To tailor the Planning Engine to "turn off any filtering" and upload all records, change the Config.ini parameters to match these statements:

PlannedWorkOrderOutputHorizonLength=730

RawMatlReleaseOutputHorizonLength=730

RequirementHorizonLen=730

NonDrumOutputHorizonLength=730

Write Schedule Pass

Use the option Write Schedule Pass to save a planning session to the ACCESS database. Write-schedule Pass utilizes the OutPutCustom.sql script that resides in the main install folder.

This functionality allows companies with multiple planners to place the VPi database on a server. Planner 1 accesses the server and runs their portion of the planning run and runs Write Schedule Pass to save the planning changes to the ACCESS database. Planner 2 loads the project, runs their portion of the planning run and runs Write Schedule Pass to save their changes back to the ACCESS database. When the last planner is finished, run Save Plan to upload data to the System i.

Write Schedule Pass creates the full functioning Thru-Put waterfall chart. The Waterfall Chart is a tool that can help identify specific planning details and dates for a specific order, that is, the requirements to expedite a specific customer order. Most of the options are self explanatory and the Longest Rope is the portion of the order that has the longest time from start to finish.
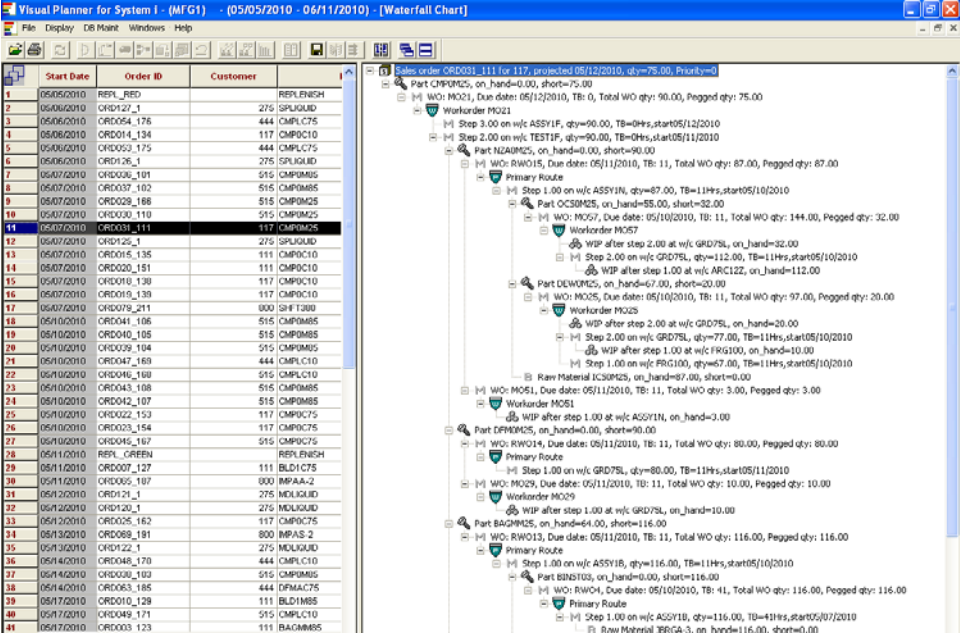
Right click in the window on the right to change the display.

Save Plan - uploading data to the System i

As discussed in the chapter "Prepare For Planning," you can plan in two modes: test or planning. The planning mode is set when you start the engine, from the DownLoad option used in the last download.

When you finish planning in test mode, select File > Exit Application to exit the planning engine.

When you finish planning in planning mode, you have these options:

- Select File > Save Plan to save the plan, upload the data to the System i, and release the System i jobs locked when you ran download. This is the normal choice. The remainder of this chapter describes what happens when you take this option.

- Select File > Cancel Plan to release the locked System i jobs without saving the plan. Use this option if you do not want to save the plan until you make changes to data on the System i. After you make the changes, run download and then plan again.

- Select File > Exit Application to exit the planning engine without either saving the plan or releasing the locked System i jobs. You must confirm your action if you select this option, as this is not a normal choice. Use this option only if you need to exit the planning engine for some reason but do not want to save or cancel the plan.

Uploaded Data

See the integration guide for your ERP product for information about the files that are uploaded to the System i. The files are written to the SampleDBAP folder in the VPi install folder, then transferred to the System i for processing. In the SampleDBAP folder, the files use the file extension of .out.

Appendix A Configuration Parameters

A

The config,ini file is located in the folder into which you installed VPi. We recommend that you do not change the settings in the file without discussing the changes with Infor PSO.

Mandatory settings

These settings are mandatory:

Parameter	Definition
DeclareAllMakePartAsMPS	1
CreateDataFiles	1 - Triggers Write Schedule Pass to generate the .OUT files
MoveWOWIPToQOH	0 - Setting 1 means that any WIP (quantity good) on the last job step will be added to QOH for the part. The work order pending quantity will be respectively reduced.
NewIntTimeCalc	1 - New Interceding Time Calculations calculate more accurate Jobstep Start and Completion Dates. These calculations are triggered by a configuration parameter that resides in the [System] section. The code does not overlap back-to-back operations on the same work center. This code also works interactively with the Routing Transfer_Size, allowing sequential or overlap between individual operations.

Additional parameters

The file includes these additional parameters:

Parameter	Definition
UseWCCalForIdlingTime	1 - (Recommended) Utilize the work center calendar 0 - Utilize a 24 Hour / 7 Work Day calendar. This setting is very difficult to follow with idle time absorbed by non-working days and the portion of 24 that is greater than the workcenter calendar on working days.
DDBEqualsStartTime	0 - Disabled (Default) Creates a buffer between Order Start Date and first Job Step Start Date 1 - Excludes the buffer before the operation in DDB calculations, thus producing an aggressive schedule
TransferEntireBatch	(global setting) Determines whether the quantity completed is transferred as 1 or the entire batch quantity between operations. Entire batch time is based on running the entire batch before transferring to the next operation. 0 - No. Qty completed is transferred as 1 creating overlapping operations 1 - Yes. Entire batch qty completed before transferring to the next operation
OverlapChildAndParentOrdersInAP	1 - Allows Child Due Date and Parent Start Date to be on the same day. 0 - The Child Due Date will be one work day earlier than the Start Date of the Parent Order. Set to 0 will also add a one work day buffer between the Demand Due Date and the Parent Order Due Date.

Parameter	Definition
ValidateWorkOrderQuantities	0 - Use routing quantity. VPi ignores status of operation. If Operation 'Good' quantity plus 'bad' quantity is less than order quantity operation will show up regardless of operation status. Assume order quantity on work order is 500. Operation is complete with quantity reported of 350. Operation will still show up with open quantity of 150 (500 - 350). If 350 is all that is going to be completed then deviate work order header by 150. 1 - Base quantity open based on work order header and ignores quantities reported against operations. If operation is C (complete) it will not show up. If you use this setting only open operations will show up, but quantity will be equal to open order quantity not quantity received at the operation. For example, if open quantity on an order is 100 then each open operation will show open quantity of 100. You will never know what the actual reported quantity. 2 - Use routing quantity. Operations reported short and complete will be dropped from the Work Center Load. Quantity reported short and complete will become the Mfg Order Qty anticipating the quantity completed at the operation is the most that can be assembled and shipped.
AllocQOHToOpenWOFirst	Whether to assign the on hand of components based upon parent work order due date or work order type ignoring the status of work order, open or planned. 0 - Allocated in Required Date sequence 1 - then the allocation sequence will be Sales orders, forecast orders, open work orders and firm planned orders in their demand due date sequence. Only planned work orders will have a lower priority.

Parameter	Definition
SplitQtyAcrossUnitsForNonDrums	(Global setting) On a non-drum work center, the work orders quantities will be equally divided over number of units available. If the quantity is cannot be divided equally, the quantity will be rounded to next integer or the batch size. This generally leads to uniform distribution of load across the units on a non drum workcenters. 0 - Entire task will be placed on unit while computing the lead-time 1 - The work orders quantities will be equally divided over number of units available (whole numbers) 3 units & qty 4 splits 1,1,2 2 - The work orders quantities will be equally divided over number of units available (fractional) 3 units and qty 4 splits 1.33, 1.33, 1.33. It does not split a qty of 1. **-1 - drop global setting and use value in Attribute 5 from WKCTR**
UseFullBatchRunTime	Calculates load with Time Basis Code = H "Hours per Lot" 0 - (default, old behavior), load calculation uses prorated method. 1 - load calculation uses full batch method. For example, if batch size is 10, and qty is 1, run time per batch is 10 hours: - the load is 1 hour (UseFullBatchRunTime=0) - the load is 10 hours (UseFullBatchRunTime=1)
PeggingFractionIgnoreFactor	To reduce performance degradation due to very small fractional quantities, when AVP matches required quantities during repegging. This factor is used to ignore very small fractional quantities.
IgnoreSetup	** Obsolete **
IncludeSetup	This parameter determines whether to include setup in L:C Default is YES
NoAutoRefresh	Used by VPi module. Does not refresh screens after decisions were performed until users choose to manually refresh a single screen or all screens. Improves performance when set to 1.

Parameter	Definition
ResolvePastDuesInAP	Past due customer orders and forecast orders: 0 - (Recommended) Orders are not rationalized (pushed out) to their feasible dates. 1 - Orders are rescheduled to their calculated completion dates before schedules are saved. This action takes place during Write Schedule Pass and Save Plan.
PushOutFromNonDrumChains=0	This insures that the engine does not automatically push out Customer Orders
SCPartVendorOverride	1 - turns on multi-source planning to look to PART Primary_Vendor for __R "rotate" or __S "split"
OfflineSyncWaterfallLen	0
NonDrumOutputHorizonLength	730 for updating pegged requirements for Replenishment planning

Specific customer parameters

This parameter is included in the config.ini file for a specific ERP XA customer.

SortOpenWOByWorkProgress= (multiple open work orders for a given part)

0 -- sort hierarchy

- work order release date (XA MO Start Date)

- identical release date, then work order id in the ascending order

1 & 2 -- sort hierarchy

- highest progress index

- work order release date (XA MO Start Date)

- identical progress index, then work order id in the ascending order

Work order with highest progress index gets first priority.

Progress Index = Sum Of(Quantity Good at each Operation)/ (No Of operations*Total Qty).

1 -- Compute from the last status 30 operation upstream and including last assembly operation with components charged to it. (Ignores operations prior to the last assembly operation) (assembly operations contain Op Where 1st Used components)

2 -- Compute from the last status 30 operation upstream and including the first job step, instead of stopping at the last assembly node.

Further, if you set AllocQOHToOpenWOFirst, then even the on hand will be allocated to open work orders with higher completion index first. This will help to optimally close the open work orders quicker. Further, if you set AllocQOHToOpenWOFirst, then even the on hand will be allocated to open work orders with higher completion index first. This will help to optimally close the open work orders more quickly.

alternate routing
A set of bill of materials and routing data that captures another method for producing a product.

ASCII (American Standard Code for Information Interchange)
A binary character code used to represent a character in a computer. It consists of 128 seven-bit codes for upper- and lowercase letters, numbers, punctuation, and special communication-control characters.

batch
A quantity scheduled to be produced together.

batch production
A manufacturing method used when the lot size of identical parts is produced in a factory. Batch production is the method adopted when the required product volumes are not adequate to permit continuous product of one product on dedicated machines.

bill of materials (BOM)
A listing of all the subassemblies, parts, and raw materials that go into a parent assembly.

BOM
Bill of materials.

bucket
A time period, usually daily, weekly, or monthly. The load within a given period of time, referred to as the bucket.

buffer
Additional planned lead time used to protect the system from the disruptions inherent in any process, or additional inventory used to enable filling customer orders in less than the normal lead time (stock buffer). A duration of

time used to protect firm schedules generated during the planning process. Strategically placed before drums, shipping operations, or some assembly operations.

burden rate
A cost, usually in dollars per hour, normally added to the cost of every standard production hour to cover overhead expenses.

capacity
Time available at a resource over a period of time. Usually determined by how the resource is staffed. For example, capacity at machine A is 40 hours per week.

CGS
Cost of goods sold.

child part
A manufactured component or purchase part used in assembly. A part made up of parts that have been made previously (parent parts).

classifying materials
A way of distinguishing orders of importance of materials in a plant. See "ignore materials," "normal materials," and "priority materials."

Configuration
The arrangement of components specified to produce an assembly.

cycle time
The time between completion of two discrete units of production. See "manufacturing cycle time" and "order lead time."

data file
A collection of related data records organized in a specific manner.

DBUtil
An VPi product that converts data files from any external source into a database that has the correct information and structure for VPi.

delivery lead time
The time difference between when a customer places an order and when the order is shipped.

demand
A requirement for a particular product or component over time. Expressed by date, quantity, and product.

Dependency
Certain operations or activities cannot take place until certain other operations or activities have been completed.

dock-to-stock lead time
The time difference between the time a purchase part product arrives at the dock to when the part can be released.

expedited POs (purchase orders)
Purchase orders with a due date (arrival date) after the date of requirement on the shop floor.

first day load (FDL)
A task must performed on the horizon start date and insufficient capacity is available.

forecast
A planning methodology that predicts orders for a product.

idle time
Time not used to perform a setup or process (run) material import.

ignore materials
Materials completely ignored by a VPi for material analysis. For example, screws and bolts.

ignore work centers
Workcenters sufficiently flexible to handle the load or with inaccurate data. You can specify to ignore these.

inventory
Amount of money tied up in materials that the company intends to sell. Inventory is equal to the purchased material value of raw material, purchased parts, work in process and finished goods.

jobs in progress (JIP)
Operations or setups currently in progress on a work center, usually a drum. Used by VPi to account for significant progress on operations that might otherwise be scheduled for a full run. For example, a furnace operation that is 14 days long might be in day 12 by the time a scheduling session occurs.

L:C chart
A software function that shows load versus capacity information on all work centers sufficiently flexible. To facilitate decision making, several display options appropriate for finite scheduling are available.

manual overtime allocation
Allocation of exact amount of overtime on specific days. VPi reschedules the work center to optimize the schedule of the work center after OT allocation. VPi allocates overtime for every calendar day (not just every work day) in the range subject to a maximum of 24 work hours per day.

manufacturing cycle time
The difference between material release for an order and shipment of the release.

minimum lead time
Any of the following:

- Firm purchase orders due before today's date plus a minimum lead time beyond which an order cannot be expedited

- Any firm purchase orders due outside of today's date plus a minimum lead time that can be expedited to today plus a minimum lead time

- New purchase orders that can be made due today plus a minimum lead time.

normal materials
All materials other than priority. Unless you ask VPi to analyze Priority Materials only, these materials will show up in your analysis.

ODBC
Open Database Connectivity.

offload
A decision you make during planning to change the work center for unstarted operations in a released order.

offloaded jobs
Tasks that have been offloaded from their original work center to an alternate work center.

outside processing
A specific routing step always sent outside the plant for processing.

outsourcing.
Buying parts which could be made in-house. Indicated in VPi by adding a purchase order to the Purchase file. If out sourced parts arrive on different dates, add multiple entries to the purchase file. VPi computes the date on which a requirement exists for an out sourced parts. It uses the arriving out sourced part for all orders that require the part after the date on which the part arrives. If insufficient parts arrive by the required dates, VPi plans to make the parts in-house. VPi assumes that all sub-components required for

the out sourced parts have either been shipped or provided by the vendor. No requirements are generated for the quantity that has been out sourced.

overhead $ (dollars)
Operating expenses minus direct labor dollars. overtime (OT). Hours worked exceeding normal labor hours. parent part. A part produced from one or more components.

planned overtime
Shows by work center the overtime allocated in the current session

planned work orders
Work orders for parts to be released no sooner than the start date but as soon as possible after start date.

PO_Qty_Open
A field in the Purchase file that specifies the sum of all purchase order quantities for the same item due on the same date.

priority materials
Materials that may be hard to procure or have long lead times.

product mix
The proportion of individual products that make up the total production or sales volume.

R&D (Research and Development) order
An experimental order.

real time
The immediate availability of data to an information system as a transaction or event occurs.

scheduling horizon
The time period for which scheduling is relevant.

Setup

A procedure performed on a work center or work centers to prepare for processing a given job.

setup time
The amount of time required to perform a setup.

SQL
Structured Query Language.

supply chain management
The use of information technology to give automated intelligence to a network of vendors, suppliers, manufacturers, distributors, retailers, and a host of other trading partners. The goal is for each player in the supply chain to conduct business with the latest and best information from everyone else in the chain, guiding supply and demand into a more perfect balance. Effective management of the supply chain enables a company to move product from the point of origin to that of consumption in the least amount of time at the smallest cost.

time-phased load profile
A chart that shows the orders at a work center. UDAs. User-defined attributes.

Undo
Reversal of decisions you made previously in planning.

work center
A specific production area consisting of one or more people and/or machines with identical capabilities that can be considered as one unit for purposes of capacity planning and scheduling.

work center family
A group of similar work centers. VPi can show loads and capacities for work centers with specified families.

work center load profile
A chart that presents load to capacity ratios for the scheduling horizon established when VPi was started. The top portion of the chart provides details about the work center (for example, number of units, ID of the calendar associated with the work center, and the work center family).