Forecasting Run Instructions

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Chapter 1
Introduction to Infor LX

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Overview of Infor LX

This topic contains information that pertains to all applications of the Infor LX product. This information enables you to perform the following tasks:

- Navigate through menus and screens
- Specify information in the fields on the screens
- Use the screen actions
- Access the online help text
- Become familiar with terms used throughout Infor LX

Navigation

The features described in the following paragraphs help you navigate within and between Infor LX screens and programs quickly and easily.

Menus

Use Infor LX menus to choose individual programs to process or view information. You can call individual applications directly from any menu.

Dates

Infor LX includes full support for dates up to and beyond the year 2000. Although most date fields display six characters, Infor LX stores the date as eight characters to include century information. Use Company Name and Date Format, SYS820, in the System Parameters Generation program, SYS800, to configure century dates and specify dates beyond 1999.

Attention key and quick access icon

The character-based user interface uses the attention key to directly access other programs, menus, and applications. On an Infor LX screen, press the Esc key.

The Webtop user interface uses the Quick Access icon to directly access programs. On an Infor LX screen, click the Quick Access icon.

You must have security authorization to use these features.

Look-up features

On the character-based user interface, a plus sign (+) indicates a prompt-capable field. Use F4 to display a look-up screen.

On the Webtop user interface, an arrow indicates a prompt-capable field. Click the arrow to display a look-up screen.

Most screens called from inquiry programs allow you to search for alphanumeric strings.

Remembered keys

Infor LX remembers certain key values, such as item number, salesperson, or container, in your workstation memory as you process information in certain programs. You can assign one of the following values to each field:

- 0. Infor LX automatically retrieves this value from remember key memory. Infor LX updates this value on a continual basis.
- 1. Infor LX automatically retrieves the value you specify in Display Remembered Keys, SYS080. It does not update the value from any other program.
- 2. Infor LX does not retrieve or update remembered key fields.

Use the Display Remembered Keys program, SYS080, to set up remembered keys.

Standard online help features

Many Infor LX programs display generic help text. Use F1 from within a field on the character-based user interface. Click the Show/Hide Help icon on the Webtop user interface. This generic help text includes help for standard line actions, standard screen actions, which are also called function keys or F keys, the run time parameter, and some screens types.

The information in the generic help text for line actions and screen actions in this document is not included in the help text for individual Infor LX programs and screens. If a line action or screen action other than those defined in the generic help text occurs in a program, the help text for that program describes the specific action.

Additional generic help text is stored in the SSARUNHT document for users of the character-based UI. You can print this document and the individual application run instructions, SSARUN01, SSARUN02, and so on, from the DOC menu on the IBM(R) iSeries(TM) in the character-based user interface.

Generic help text for line actions

Line actions

The following line actions are valid in numerous screens. They have the functions described in the following sections.

1=Create

Specify Create on the prompt line and a value in at least one key field to add new information to the file. The system displays maintenance screens on which you can specify the new data. The system prints the new data on the audit report.

Note: You cannot specify Create next to existing data.

1=Select

On a prompt screen, specify 1 to return the selected data to the original screen.

2=Revise

Specify Revise to change the information for a line. Specify 2 and a value in at least one key field or specify 2 next to a line. The audit report lists the change. If you specify Revise next to a line with inactive information, the system reactivates the information.

3=Copy

Specify Copy to copy existing information. You can specify 3 and a value for at least one key field or you can specify 3 next to a line. The system displays a maintenance screen on which you can specify new data and change existing data.

4=Delete

Specify Delete to deactivate the information on a line. You can specify 4 and a value in the key fields or you can specify 4 next to the line to delete. Use Revise to reactivate deleted information.

5=Display

Specify Display to view information. You can specify 5 and a value in the key fields or you can specify 5 next to a line.

6=Print

Specify Print to print information on the audit trail. You can specify 6 and a value in the key fields or you can specify 6 next to a line.

8=Position To

Specify Position To to move a line to the top of the list. You can specify 8 and a value in the key fields or you can specify 8 next to a line. The system repositions the list to begin with the requested line or, if the line does not exist, to the line that is next in sequence.

After you use the Position To feature, you can page down or you can use the Position To action with a different value, but you cannot page up. You can return to the top of the list if you specify Position To but do not specify a value in the key fields on the prompt line.On a prompt screen, display details matching the information you specified.

10=Search

On the top line of a prompt screen, use 10 and known field data to locate specific information.

Additional line actions

If a program contains additional line actions, see the line actions help text in that specific program for descriptions of those line actions.

Generic help text for screen actions

Many screen actions, also called F keys, perform the same function for every program or screen in Infor LX. Definitions for these screen actions follow.

Enter

Proceed to the next screen of a maintenance program. On the final screen, press Enter to update the file and return to the first screen of the program for additional maintenance activity.

Enter

Validate data in a screen. This function of Enter generally occurs in transaction programs that have an F6=Accept screen action, which saves the data on the screen.

Enter

Send the output from a report or listing program to an output queue for processing.

F1=Help

Display help text. This screen action applies to the character-based user interface only.

F3=Exit

Exit a program and do not record, update, or print the information you specified on the program screens.

F4=Prompt

Display a pop-up screen that lists existing values for the field. A plus (+) character denotes a prompt-capable field in the character-based user interface. In the Webtop user interface, the prompt-capable field has a small arrow that points to the right .

F5=Refresh

On a list screen, redisplay the screen to check the status of an executed function.

On a maintenance screen, redisplay the original values on the screen.

F6=Accept

Accept your changes and exit the program.

F7=Backward

Display previous lines, that is, those alphanumerically closer to A or those with earlier dates.

F8=Forward

Display additional lines, that is, those alphanumerically closer to Z or 9, or those with later dates.

F11=Fold

Display a folded view of the screen that contains additional information. Use F11 again to return the screen to its previous format.

F12=Cancel

Return to the previous screen and do not save values you specified on this screen. If you use F12 to return to a selection screen in a maintenance program, you cancel changes you made to any screens in the program.

F23=More Actions

Display additional line actions. If a screen has many screen actions, you may need to press F24 to see that there is an F23 action, which indicates that additional line actions are available.

F24=More Keys

Display additional function keys.

Generic help text for standard screens

Several categories of screens have identical functionality, though the content differs. These types of screens are explained in the following sections.

Generic help text for list screens

Many Infor LX programs contain screens with lists of information to specify for maintenance or inquiry. You have two options to specify the information to process on a list screen:

- Use the Act field and the key fields that appear at the top of the list.
- Specify a line action in the Act field of the line with the information you want to process.

After you make your entries, press Enter to perform the line action.

Generic help text for filter screens

Some Infor LX programs feature a filter screen, which you can access with F13. The filter screen enables you to filter the data to display. For example, if you use F13 in Warehouse Master Maintenance, INV110, you can display all records by warehouse or active records by warehouse or active records by description. Some filter screens provide sort or sequence options.

Generic help text for the run time parameter

Run Time Parameter (1,0):

Specify interactive to process the data in real time or batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Infor LX menus

This section describes the menus in Infor LX.

ERPLX main menu

The ERPLX Main Menu is the first of five master menus. You can access the four major Infor LX application groups from this menu:

- Configurable Enterprise Financials, CEF
- Multi-Mode Manufacturing, MMM
- Supply Chain Management, SCM
- Cross-Product Applications, XPA

Specify the abbreviated application group fast path code to access the master menu for the desired application group.

Configurable enterprise financials menu

Use the Configurable Enterprise Financials menu, CEF, to access Infor LX financial applications. Specify the application fast path code to access the desired application menu.

Multi-mode manufacturing master menu

Use the Multi-Mode Manufacturing master menu, MMM, to access Infor LX manufacturing applications. Specify the application fast path code to access the desired Infor LX application menu.

Supply chain management master menu

Use the Supply Chain Management master menu, SCM, to access Infor LX supply chain management applications. Specify the application fast path code to access the desired Infor LX application menu.

Cross-product application menu

Use the Cross Product Application menu, XPA, to access, analyze, and transmit information within Infor LX. Specify the application fast path code to access the desired Infor LX application menu.

Commonly used terms in Infor LX

Reference only

Reference only indicates that the system uses the information for the given field only for reference and does not use it for processing.

Extreme values by default

Some fields display extreme values by default. The system uses an alphanumeric or numeric extreme in these fields if you do not override the value. Use these default values, which are usually specified as ranges, to include all information in the range. The defaults values or any other values specified to designate a range do not have to be valid values in a database file.

(Y/blank)

If the screen displays (Y/blank) for a field, specify Y or Yes for a particular action to take place. Otherwise, leave the field blank. The screen displays (Y/N) if the field requires a Y or an N.

Ranges

Ranges refer to fields you can use to limit an inquiry or report or to display specific data. If there are multiple range fields in a program, you can tailor your inquiry or report to produce only the data you need.

Infor LX sorts the information alphanumerically. Therefore, the value in the From field must be a lower alphanumeric value than the value in the To field.

Infor LX usually inserts extreme values as defaults in the lower and upper fields. See the description for Extreme values by default. The entries you make in range fields do not have to be valid values in a database file.

Review the following suggestions to limit the information:

Specify the first value to include on the inquiry or report in the From field. Leave the To field blank to include all information to the end of the file. For example, you can print a report that starts with the customer number you specify in the From field and stops at the end of the Customer Master file.

Specify the last value to include on the inquiry or report in the To field. Leave the From field blank to start at the beginning of the file. For example, you can perform an inquiry that starts with the beginning of the Customer Master file and ends with the customer number you specify in the *To* field.

Specify the same value in both the *From* and *To* fields. For example, you can limit a display to one customer.

To include a group of items, specify a value in the *From* field and another value in the *To* field. For example, you can perform an inquiry that starts with the first of the month and ends with the last day of the month.

Alphanumeric

Alphanumeric refers to text that contains letters, letters and numbers together, and numbers arranged uniformly with special characters, such as dates in MM/DD/YY format. Infor LX sorts reports and inquiries in ascending alphanumeric order, unless indicated otherwise. Ascending order arranges items from the lowest value to the highest value. Alphanumeric text is sorted in ascending order according to the following rules:

- Special characters, such as $, %, - (hyphen), comma, and period, come before all others
- Lowercase letters come before uppercase letters
- Uppercase letters come before numbers
- Numbers, that is, 0 through 9, come last

A/R, A/P

The documentation uses the abbreviations A/R and A/P to denote the terms accounts receivable and accounts payable, respectively. The abbreviations distinguish the terms from the corresponding program indicators of ACR, and ACP, which precede program numbers, for example, ACR500 and ACP150.

Ranges

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Review the following suggestions to limit the information:

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Specify the last value to include on the inquiry or report in the To field. Leave the From field blank to start at the beginning of the file. For example, you can perform an inquiry that starts with the beginning of the Customer Master file and ends with the customer number you specify in the *To* field.

Specify the same value in both the *From* and *To* fields. For example, you can limit a display to one customer.

To include a group of items, specify a value in the *From* field and another value in the *To* field. For example, you can perform an inquiry that starts with the first of the month and ends with the last day of the month.

Chapter 2
Forecasting Management Overview

2

General instructions

This document is divided into the following sections:

Product overview: This section provides a general description of the functions and highlights of the product.

Product flow: This section describes prerequisites to operate the product, the sequence in which the programs should be run, and the functions of this product.

How-to index: This section is an alphabetical list of product functions. The system displays the number of the program to use next to each function.

Menus: This section displays all the menus associated with the product. The program numbers are in parentheses to the right of the program name.

Run instructions: The operator run instructions are presented step-by-step for each program.

Product overview

Forecasts address a wide range of business issues within an organization. Various levels of management require forecast information for different purposes. Forecasts for individual products help to effectively schedule operations. Product or brand managers require forecasts for product categories or for territorial divisions to generate successful marketing plans to support sales promotions, advertising and distribution activities. Executives need forecasts that identify overall sales activity to plan and develop budgets.

To control production levels effectively, production managers must formulate a manufacturing plan that reaches far enough into the future to provide adequate customer service and to distribute production as evenly as possible over the planning year. However, managers cannot always wait for customer orders before goods are manufactured because the product lead time may be too long to meet the customers' immediate needs, or because the manufacturer lacks the capacity to satisfy large orders within a short time period.

For this reason, production managers must estimate future levels of customer demand for a finished product to create a production plan that allows them to regulate their inventory levels to match future demand and maintain profitability. Unfortunately, even the best managers occasionally misjudge demand and produce too much, which causes excessive inventory costs, or produce too little goods to keep customers satisfied during periods of peak demand.

A formalized forecasting system replaces subjective forecasting tools, which often produce unreliable estimates of future orders, with a standardized system that consistently provides accurate predictions of future demand. However, such a system does not entirely remove forecasting decisions from management because they often possess product-specific and market-specific information that cannot be built into the standardized models.

Infor LX Forecasting uses proven modeling and statistical techniques to generate demand forecasts and also gives managers the flexibility to make adjustments based on their experience and expertise.

Forecast modeling via the best fit technique

Infor LX Forecasting uses a "best fit" method to determine which of the available forecasting techniques produces the most accurate forecast for a given modeling period. The modeling period is user-defined, but it usually consists of a set of the most recent periods for which demand history exists. The system selects the technique that most closely approximates the basis data, and generates a forecast that spans the planning year.

Infor LX Forecasting comes with five pre-programmed forecasting techniques. In addition, provisions exist to create up to four more programmed techniques available, if necessary. You can also program up to 26 individual forecasting sub-routines. You can select from one to five techniques (preprogrammed or user-created) for modeling demand through the "best fit" analysis for each item and warehouse combination.

Closed-loop design

Infor LX Forecasting is a closed loop application. This means that it processes information from the Billing and Order Entry products and creates a forecast that can be broken down into sub-periods and loaded directly to the Master Production Schedule Forecasting file. Processed orders can then consume the forecasted quantities on the master schedule. After you complete the processing for an intermediate period, you can adjust the billing or order data before it is used to generate a new forecast. This reduces the use of data that reproduces forecast errors. However, the system allows a variation of this routine: you can elect to use the forecast history data from the MPS/MRP Forecast file to generate future forecasts.

Measure accuracy and forecast error

Infor LX Forecasting provides a tracking signal which measures the trend of deviation of the computed forecast values from the actual demand values as they are recorded. The tracking signal indicates whether your forecasted values are consistently too high or too low, and whether they become more or less accurate.

There are three predefined methods to calculate forecast error. Each error computation provides a different way to view deviations between forecasted and actual data depending on your needs. You can calculate the error every time new demand data becomes available. You can easily modify Infor LX to create your own error calculation subroutines.

Manual adjustments

Use Infor LX to create and use your own forecasting techniques and to create new error calculations. In addition, of Infor LX Forecasting provides the following user-controlled features:

- You can define up to 33 error calculation techniques by programming your own subroutines. Infor LX also allows you to create and install up to 27 additional forecasting subroutines.
- You can determine the value of various smoothing factors that are used throughout the Forecasting product.
- There is an independent cycle adjustment factor to correct for cyclical changes that take place over several years. These factors can vary for each different item and warehouse combination, and you can use them to adjust the computed forecast values either upward or downward by a fixed percentage.
- You can set irregularity limits for the basis data (demand or forecast) to eliminate irregularities or spikes in demand or forecast history. If a basis value exceeds this limit, the system substitutes the maximum or minimum allowable value for that period into the forecasting calculation. This helps to eliminate sizable irregularities in the basis demand data.
- The number of intermediate periods per planning year is variable. Usually, the planning year for forecasting matches either the master scheduling periods or the available history data. There can be up to 13 intermediate periods per planning year. For example, you can define bi-monthly (six) or quarterly (four) periods. The number of periods per year must be constant throughout the system, but the specific period cut-off dates can vary for each warehouse.
- The current year and period are initially user-defined.
- The number of modeling periods used is variable. It can range from one to nine intermediate planning periods. Usually, the system includes at least three months of history for modeling.
- The length of the forecast generation period is adjustable. You can generate forecasts for up to two years into the future. Infor LX supports next-fiscal-year planning and provides product line summaries based on the forecast.
- You determine the number of years of basis and seasonality history to save and to use in calculations.

Smoothing factors

The exponential smoothing factors used for the Holt-Winters calculation, trend, seasonality, and error are user-defined and can vary for each valid item and warehouse combination. These smoothing factors range in value from zero to one. The higher you set these factors, the more weight you assign to more recent data. The trend and seasonality factors are also used for the Trend Adjusted for Seasonality techniques.

Security and simulation files

Infor LX Forecasting uses normal system security to override final forecast values. In addition, there is password security to copy simulation files back to the Forecasting file.

There can be many individual simulation files. You can transfer data from any simulation file to actual forecasts and then you can break it down into appropriate sub periods to load to the MPS/MRP Simulation file. You can control whether to load each item and warehouse to MPS.

Forecast product architecture

There are a number of special design features built into Infor LX Forecasting. A few of the most important features are listed below.

- You can generate forecasts for any item and warehouse combination.
- Sales demand values can vary by both item group and customer group.
- The system stores historical data by date and summarizes it by period. You can store both demand and forecast history values for up to eight years. You can adjust the history data (basis data at the item/warehouse level only) before you generate a forecast. You can determine which periods the system allows you to update.
- Demand, historical forecast, and alternative forecast strategies are available for online graphic review with tabulated data and reports (allows full screen comparison of values).
- If Infor LX Order Entry is installed, you can compare open orders to forecast values with an online, full screen graphic inquiry.

Overview of Infor LX forecasting

Infor LX Forecasting bases its forecasts of future demand on past data which you can adjust for predictable variations and for irregularities. In addition, you determine the values of the smoothing factors that Infor LX uses for some of its forecasting calculations, and can adjust the final forecast values. You can create your own forecasting techniques if you are able to program your own subroutines.

To understand the way that the forecasting system works, you need to understand the basic factors that influence demand. These factors are listed below:

- The level of trend or the level of basis demand-the statistical average level of demand anticipated for a period.
- Seasonality is a variation in demand that occurs within a planning year.
- General cycle variations are a variation in demand that occurs over a period of several years.

Basis demand is composed primarily of a slow-varying component (trend) that you can adjust for relatively rapidly changing variables, which account for any observed variations.

The term "basis demand" has two different, but commonly used, meanings. The term is primarily used as a generic name for the beginning data used to generate a forecast. This is necessary since both actual recorded demand data and previous forecast values can be used to generate forecasts. The term

also represents the general level or trend of demand or of forecast history. However, in this document, the latter concept is described by the term "level of basis demand."

To illustrate the factors noted above, consider the hypothetical changes in demand that might occur for a typical household commodity: ground coffee. Typically, the general demand for coffee varies with the change in seasons. Demand increases during cooler weather and decreases during warmer weather. If the level of coffee production varied as much as the level of demand, coffee manufacturers would produce at extreme levels of capacity.

During the winter months, production levels would strain capacity and increase overhead, thus increasing costs. Conversely, during the summer months companies would need to reduce their labor force to stay efficient. Many companies with large capacity could not adjust to such instability in their production levels, and would not survive.

To eliminate such variations in production levels a company can produce some of the requirements for peak demand months during months if capacity is underutilized. This is why it is important to determine trend or basis demand. If a company distributes demand over the entire planning year, it can consistently plot efficient production levels throughout the year. Trend computes a statistical average of demand that gradually adjusts demand values to smooth out requirements. To distribute production it adjusts the recorded level of demand to a level that is consistent with the overall requirements for the year, but it allows basis level demand to vary gradually so you can keep manufacturing priorities straight.

The purpose of the trend is to smooth production levels. The purpose of seasonality is to apply minor adjustments to trend based on recurring historical variations of actual demand to the level of trend. For example, the seasonal rise and fall in the demand for ground coffee during the winter and summer months, respectively, illustrates the effects of seasonality on demand. In this example, demand typically is greater and less than trend, respectively. If the company adjusts basis demand in this manner, the company slightly adjusts the forecast to represent realistic requirements, and avoids drastic changes in the planned manufacturing level.

However, Infor LX does not measure seasonality in units; rather, it calculates the ratio of actual demand to the computed level of trend. You can use seasonality to apply percentage adjustments to various computed and measured values, regardless of the relative size of those values. If you compute a ratio, the amount of seasonal variation is viewed as dependent on the overall level of demand rather than independent. In actual practice, companies compute the ratio with a smoothing factor.

Seasonality helps measure the predictable variations that recur within a planning year. You can combine trend and seasonality to develop a rough forecast, but if you compensate for changes in demand that occur over many years, you can develop a forecast that is even more sensitive to demand history. With the example of ground coffee, suppose that over the course of two, three, or even ten years, the demand for ground coffee declines. This can result from a wide range of market pressures like the introduction of the new technology that makes instant coffee a market success, or the entry into the market of a substitute like herbal tea. To include long-term changes in the forecasting model, Infor LX lets you apply a percentage correction to the final forecast values for the entire forecasting period, which can be up to two years long. You determine the percentage value to be used.

Even if you use trend, seasonality, and long-term adjustment factors to generate a forecast, the forecast is only as accurate as the basis data you have at the start. Often, abnormal market conditions create demand data that is will not repeat in a predictable manner. For example, if coffee drinkers expect a drastic increase in the cost of coffee, they might dramatically increase their purchases of coffee to stock

their shelves before the prices actually rise. Poor coffee crop reports or reports of attempts to increase the price of coffee with market shortages often produce such market behavior.

You cannot use the resulting demand values in situations like those because do not represent "normal" activity. Infor LX Forecasting allows you to adjust the basis data to eliminate irregularities from the calculation.

Infor LX Forecasting treats factors of demand as related, not independent, variables. As a result, the system represents them by the general equation below. This concept corresponds to the most widely recognized forecasting theories.

F = T x S x I x C

The variables in this equation have the values listed below.

F	Forecast
T	General Trend
S	Seasonality
I	Irregularities
C	General Cycle

Infor LX offers five pre-programmed forecasting methods because, under varying product and market conditions, one of the methods can produce a better estimate than the others. The individual techniques weigh the seasonality and trend factors differently, or not at all, in order to fit different conditions. For example, if the demand pattern for a product changes steadily, a model that recognizes this trend will probably produce a better forecast than a model that simply averages demand. Consequently, you can use one method to forecast demand for a mature product that is established in a level market, but you can use a different forecasting technique for a product in a rapidly changing market.

You can choose one technique for all forecasting, or you can let Infor LX Forecasting decide which technique to use. Infor LX Forecasting matches the levels of demand, forecast by each of the five different methods, to the recorded levels of basis demand for the modeling period. The modeling period consists of the most recent months for which demand is recorded, and is used solely to test the accuracy of the forecasted values.

Forecast modeling

Forecast modeling uses various forecast techniques to generate forecasts, and then compares the various forecasted values to recorded basis values. Forecast modeling determines the forecast technique that most closely approximates the historical data within the modeling period. After you select the best fit you can use forecast modeling to generate the demand forecast. This forecast can reliably predict what your manufacturing work load is likely to be for any time period within the next two years. You can

regenerate forecasts each month with the most recently reported information. The accuracy of your projections improves for each future period. This makes it possible to predict demand even for items with long lead times, and it lets you work around limited capacity. It also assists financial planning for future fiscal years.

Forecast simulation

Use Infor LX to experiment with different forecasts through the use of simulation files. For example, you can adjust simulation data upwards or downwards to compensate for one-time occurrences that do not represent "normal" activity. In addition, if the selected forecasting technique uses exponential smoothing factors, you can adjust those factors to suit your needs. These factors are used to mathematically weigh recent historical data more heavily. This data can be varied for each warehouse and item combination.

After you make adjustments, you can generate many different forecasts to establish a range of possibilities. If you settle on one forecast, you can break down that forecast into appropriate sub-periods and load it to the existing master production schedule. Thus you complete Forecasting's closed loop design.

Evaluate forecast accuracy

If actual demand data begins to accumulate for the forecast year, you can use it to measure the accuracy of your forecasts. Infor LX offers three separate methods to calculate forecast error. Each method lets you view the forecast error in a different manner: you can view the error as an absolute mean deviation, an absolute percentage deviation, or as a mean squared deviation.

Infor LX also provides a "tracking signal," which is the smoothed ratio of the cumulative error to the mean absolute deviation. The tracking signal indicates the overall trend of the forecast deviations from period to period so you can determine whether the forecasted demand is consistently too high or too low, and then make the appropriate adjustments to the master schedule. The tracking signal varies between one and negative one. If it equals one, your forecasts may be consistently too high, and if it is equal to negative one, your forecasts are probably too low. You can use your own judgment with the tracking signal to determine if the forecast contains significant deviations. With experience, you will learn to quickly identify problems and make corrections. The tracking signal also indicates whether your adjustments produce more accurate results.

Typically, you generate a forecast for up to two years into the future with the method that produces the closest estimate of actual demand data for the modeling period. Infor LX determines the most accurate model. After the actual demand data is posted for the period, you can compute the forecast error by using one of the three available error techniques. Infor LX automatically generates a new tracking signal value at this point, although you can generate new tracking signal values at any time during the period.

If the forecast error is large, or if the tracking signal indicates that the forecast error increased, you can adjust either the basis data or the smoothing factors and regenerate the forecast. Infor LX can perform modeling each time you generate a new forecast. You can use the simulation files to experiment with various adjustments. You can go through this routine after closing each period to keep your forecasts accurate and up to date.

Overview of five forecasting techniques

Infor LX Forecasting initially contains five preprogrammed forecasting techniques. There is also a reserved capability for up to four additional programmed forecasting techniques as needed for future enhancements. In addition, you can modify Infor LX to contain up to 26 user-defined subroutines for other forecasting techniques. Remember, to add subroutines you need to modify your programs. You can select any five techniques to perform best fit modeling for each item and warehouse combination. You can change your modeling selection as needed.

The following five pre-programmed forecasting techniques satisfy a wide range of forecasting needs:

- Holt-Winters Exponential Smoothing
- Least Squares Approximation
- New Forecast Equals Old Actuals (or Old Forecast)
- Trend Adjusted for Seasonality
- Average Yearly Change Adjusted for Seasonality

1. Holt-Winters Exponential Smoothing

This method applies the concepts of exponential smoothing, seasonality, and trend to the Y-axis intercept form of an approximation line to compute a forecast. The result is a highly refined forecast that is especially sensitive to variations due to changes in basis level demand as well as to seasonal variations. This technique uses a stored seasonality value. It also uses a trend value that is smoothed and updated to contain the latest basis data.

With the seasonality factor, the system de-seasonalizes the basis demand values. Infor LX then uses exponential smoothing to combine this value with a previously computed forecast value for the current period, which is adjusted for trend. The resulting smoothed average basis level demand is adjusted for trend and re-seasonalized to arrive at the final forecast value.

The trend used here corresponds to the slope of an approximation line for the starting basis demand that is computed by the least squares method.

To use the Holt-Winters technique, you must have at least as much history as is required for the least squares method (at least one year plus the length of the modeling period).

2. Least Squares Approximation

The Least Squares Approximation method calculates a straight line approximation of the basis data. It then generates a forecast for the planning year by extrapolating the line over the planning year.

One of the best mathematical methods for developing a straight line approximation to data points uses a technique known as least squares analysis. The idea is to minimize the sum of the deviations of the recorded data from the calculated line. The deviations are calculated by subtracting the computed value of the trend line at a specific point with the value of the actual demand level at that same point.

To minimize the sum of the deviations, all the deviations must be represented with the same sign. This is necessary because you are concerned only with the relative size of the deviation, not with whether the actual deviation was higher or lower than the forecast.

To ensure that all the deviations are non-negative values, and to magnify the significance of the relatively large deviations, the individual deviations are raised to the second power, or squared, prior to being summed. Consequently, the goal of this method is to minimize the sum of the squared deviations. This is how the terminology "Least Squares Method" was derived. The result of this calculation is an equation for the approximation line that is in the Y-axis intercept form. Though this is not the simplest method for determining trend, the processing capability of your computer makes this method relatively easy for the degree of accuracy achieved.

To use the least squares model, you must have at least one year of history plus the modeling period.

3. New Forecast = Old Actuals or Old Forecast

The simplest and most straightforward forecasting calculation is the new equals old method. This method projects future demand patterns to be identical to the demand pattern for the previous planning year. There are no corrections for seasonality or trend. With this method, the forecast value for a given intermediate period (for example, a month) would be identical to the corresponding period in the previous planning year.

To use this technique, you must have at least one planning year of history plus the amount of history needed for the modeling period.

4. Trend Adjusted for Seasonality

This technique is very similar to the average yearly change model. The only difference between the two is that with the "Trend Adjusted for Seasonality" method, the system calculates a smoothed trend value and uses it in place of the yearly average change. The de-seasonalized basis values for the previous planning year are added to the individual trend values for each respective period. The resulting sum is then re-seasonalized by the appropriate smoothed seasonality factor.

To use this technique, you must have an amount of history that is at least twice the length of the modeling period plus one intermediate period (for example, a month). For example, if you use a three month modeling period, you would need at least seven months of basis data. However, one planning year of history is desirable.

5. Average Yrly Change Adj for Seasonality

The "Average Yearly Change Adjusted for Seasonality" model first calculates the average yearly change of the basis data points, which is the total difference between the sum of the basis demand of the previous planning year and the sum of the basis demand of the planning year immediately before that. The system then divides this value by the number of intermediate periods in the planning year to arrive at an average change value.

The system retrieves the computed seasonality factor for the previous year basis demand data and de-seasonalizes the individual basis values of the previous planning year. The computed average yearly change value is then added to the individual, de-seasonalized basis values, and the sum of these two is then multiplied by the appropriate smoothed seasonality factor for next year to arrive at the forecast values.

To use the average change technique, you must have at least two planning years of history plus the modeling period to compute the average.

Product flow

Deleted: *ERPLX-67 Removed the unnecessary statement*

This section describes the relationships between the various programs in this product. The steps mentioned here illustrate only one of many processing flows that a user could follow to complete a transaction from start to finish. This represents the an example of the steps to follow the first time you operate the Forecasting product.

After you implement Infor LX Forecasting and your processing becomes routine, you can omit some steps. You will learn to use all the other Forecasting programs in a sequence that suits your needs. For example, after the initial set up, you do not need to use the master file maintenance programs unless you must maintain specific master file data. Use the various inquiry and report programs as needed. In this section inquiry and report activities are positioned after the processing programs that affect the primary data contained on those reports, because they are useful only after those processing programs have generated data.

Use this section to formulate a picture of how the programs interact, but remember that it is only one way of viewing the system. As you look at the steps, try to envision how you will use these programs.

Maintenance

The programs listed below establish the basic information that the Forecasting system needs. Use these programs when you initially set up Infor LX or if you want to change some basic characteristic of the system. You do not need to use these programs every time you process forecasting data. Each of these maintenance programs has an analogous print program that you can use to produce a hard copy of the data.

- Forecasting Application Control, FOR100D
- Methods and Errors, FOR110D1
- Forecast Periods, FOR120D1
- Seasonality Factors, FOR130D1
- Item Class/Warehouse Overrides, FOR140D1

Listed below are four methods and the programs they use to move demand to Forecasting.

Method A - Manual Load and Copy

- FOR150 - Forecast Basis

- FOR020 - Item Warehouse Data from Basis

Method B - Load, Adjust and Copy

- FOR010 - Forecast Basis
- FOR150 - Forecast Basis
- FOR020 - Item Warehouse Data from Basis

Method C - Manual

- FOR170 - Item Warehouse Data

Method D

- STMOVSLS - Move sales from an external product

Load basis data

After you use the maintenance programs to tailor Infor LX to your needs, you must establish basis data. This is not necessary if you get sales history from an external product. Basis data consists of actual shipments, customer orders or forecast history.

- Actual Shipments come from the Item Transaction History file, ITH. The shipment history consists of "B" transactions generated when product is shipped from Infor LX inventory.
- Actual Order Quantities come from the Customer Order Line file, ECL. Order history is generated by the Infor LX Order Entry product.
- Forecast History is obtained from the Material Requirements file, KMR. Forecast history is either maintained manually or generated by the Infor LX Forecasting product and subsequently loaded to KMR.
- Basis data may be entered manually (Method A), or pulled from Infor LX history utilizing FOR010 and maintained utilizing FOR150 (Method B).

Load item/warehouse detail data

After the system loads the basis data in the Basis file (JFB), you can use it update the Forecasting Item/Warehouse Detail file (JFI) by processing FOR020.

Note

Infor LX uses Item/Warehouse control parameters (JFC) to determine which type of basis data to use to update the JFI file.

You can maintain data in the Item/Warehouse Detail file (JFI) with FOR170. You can also use FOR170 to add Item/Warehouse detail data (Method C).

Other maintenance programs

Use the two maintenance programs, Seasonality History (FOR160) and Simulation Security Codes (FOR180), to manually enter seasonality history tables and to use password security for transferring a

simulation file to the MPS/MRP Forecasting file. Seasonality tables contain individual values for each intermediate period of past or future years.

Choose to forecast or simulate

After the preliminary steps discussed above, you can follow one of two processing paths: you can choose to (A) perform forecast simulation or (B) develop a new forecast. These two parallel paths are described next. After you either perform a simulation or create a new forecast, you can print reports and perform inquiries.

(A) Perform forecast simulation

If you choose to perform simulation, you can choose to work with an existing simulation file or you can choose to copy the existing forecast to the simulation file. Each simulation forecast must have a unique name.

Copy to Forecast Simulation (FOR610)

- Simulation Selection (FOR600)

The three programs you use to develop a new forecast and the first three programs in the Simulation Processing list below are identical except that the Simulation Processing programs affect only the data for the simulation file that you select. The purpose and use of each of these programs was discussed in the previous section. Use the following sequence of programs to perform simulation.

- Item/Warehouse Data (FOR170)
- Modeling (FOR500)
- Forecast Generation (FOR510)
- Forecast Adjustments (FOR520)

After you simulate a forecast, use the following programs to generate reports and inquiries:

- Forecasting Inquiry (FOR300)
- Forecasts and Orders (FOR310)
- Forecast vs. Fore. Basis (FOR200)
- Forecasts (FOR210)
- Product Line Summary (FOR220)
- Forecast Analysis (FOR230)
- Forecast vs. Open Orders (FOR240)

The report and inquiry programs are available for use at your discretion. Once again, the simulation programs use only the set of simulation data that you selected. These are the steps to generate a report or inquiry for simulation:

- Forecasting Inquiry (FOR300)
- Forecasts and Orders (FOR310)
- Forecast vs. Fore. Basis (FOR200)
- Forecasts (FOR210)
- Product Line Summary (FOR220)

- Forecast Analysis (FOR230)
- Forecast vs. Open Orders (FOR240)
- Tracking Signals (FOR250)
- Outliers (FOR260)

After you finish simulation processing, you can copy the data to the MPS/MRP Forecasting file, produce a backup copy of the simulation data on a transferable medium, remove the set of data from your file, or leave the simulation data on file by accessing another menu. The Copy to Forecast feature can be controlled through password security.

These are the steps to remove or save a simulation file:

1. Copy to Forecast (FOR620)
2. Backup Simulation (FOR630)
3. Delete Simulation (FOR640)

(B) Develop a new forecast

Use these programs to develop a new forecast instead of a simulation:

- Modeling (FOR500)
- Forecast Generation (FOR510)
- Forecast Adjustments (FOR520)

After you create a forecast, use the following programs to generate reports and inquiries:

- Forecasting Inquiry (FOR300)
- Forecasts and Orders (FOR310)
- Forecast Base vs. Forecast (FOR200)
- Forecasts (FOR210)
- Product Line Summary (FOR220)
- Forecast Analysis (FOR230)
- Forecasts vs. Open Orders (FOR240)
- Tracking Signals (FOR250)
- Outliers (FOR260)

The report and inquiry programs are available for use at your discretion.

Regenerate tracking signal

At this point you have generated a forecast you find satisfactory. With the newly calculated forecast values, you can regenerate the tracking signal needed to evaluate your forecasts. The tracking signal must be regenerated regularly because the most recently reported information influences its true value. The system generates new tracking signal values only for the items that have changed data or parameters.

Use the Constants Generation (FOR530) program to regenerate the tracking signal.

Copy forecast

You can now copy the new forecast to the MPS/MRP Forecast file and customer orders can consume or add to it. The new forecasts override the old forecast quantities. You can also remove old forecasts manually.

1. Load Forecast to Planning (FOR540)
2. Link to MPS/MRP

Intermediate period-end processing

At the end of each period, you can update your basis data with new information from actual shipments, actual orders, or from forecast history. First, to make room in the Item/Warehouse Detail file (JFI) "roll" the data for the just completed intermediate period into the bucket for the intermediate period prior to that, and so on for all other historical data. This program also purges history that is old and updates the current period for Application Control. Use the following programs to perform intermediate period-end processing:

- Purge and Roll History (FOR900)
- Update Current Demand (FOR910)
- Update Current Orders (FOR915)
- Update Current Forecast (FOR920)

Note

FOR910, FOR915 and FOR920 apply to Item/Warehouse Forecasting if basis demand is used. They do not apply if demand comes from an external forecasting product.

Adjust and load basis

With newly updated basis data, you can make any necessary adjustments and then update the current period basis data that Infor LX uses to generate forecasts. You can choose to (A) adjust the basis and load it, or (B) load it. Use the following programs:

(A) To adjust basis and load:

- Forecast Basis (FOR150)
- Load Item/Warehouse from Basis (FOR930)

(B) To load basis only, use Load Item/Warehouse from Basis (FOR930).

Note

This process applies to Item/Warehouse Level Forecasting only. It does not apply to Bottom-Up/Top-Down Forecasting.

Year-end procedures

At the end of each year you must store the seasonality factors that you used during the year so that Infor LX can use these factors to de-seasonalize data if it generates forecasts for the next year. The last step is to generate the forecast values for the next year or two. The system uses the basis data for the year just past to compute these seasonality factors. If you generate seasonality factors for two years, the factors for the second year are duplicated from those for the first year. Use the following programs:

- Yr End Seasonality History (FOR940)
- Yr End Seasonality Factors (FOR950)

Initialization of new items

Follow any of these procedures to initialize new items added after the forecasting system has been installed:

- Manually load forecast history in Forecast Basis Maintenance (FOR150), then run Initial Item Warehouse Data Load (FOR020)
- Manually load the new items into Item Warehouse Data (FOR170)
- Download new records from an external forecasting product. (STMOVSLS)

How-to index

Use the following list to determine which program to use for a particular forecasting task.

- Adjust forecast (from Menu FOR), FOR520
- Adjust simulation (from Menu FOR02), FOR520
- Backup simulation, FOR630
- Compare demand to actual history, FOR300
- Compare demand to forecasted history by period, FOR300
- Compare demand to forecasted history, FOR300
- Compare forecasts to open orders, FOR310
- Compare history to forecast, FOR300
- Copy forecast to simulation, FOR610
- Copy simulation to forecast, FOR620
- Delete simulation, FOR640
- Generate constants, FOR530
- Generate forecast (from Menu FOR), FOR510
- Generate year-end seasonality factors, FOR950
- Generate simulation forecast (from Menu FOR02), FOR510
- Initialize forecast basis data, FOR010
- Initialize item/warehouse data from basis data, FOR020
- Load forecasts to MPS/MRP, FOR540

- Load item/warehouse from basis data, FOR930
- Maintain forecast basis, FOR150
- Maintain forecast periods, FOR120
- Maintain forecasting methods and error techniques, FOR110
- Maintain forecasting parameters (application control), FOR100
- Maintain item class/warehouse overrides, FOR140
- Maintain item/warehouse data (from Menu FOR01), FOR170
- Maintain seasonality factors, FOR130
- Maintain seasonality history, FOR160
- Maintain simulation item warehouse data (from Menu FOR02), FOR170
- Maintain simulation security codes, FOR180
- Perform forecast modeling (from Menu FOR), FOR500
- Perform simulation modeling.(from Menu FOR02), FOR500
- Print basis file data, FOR155
- Print forecast analysis, FOR230
- Print forecast periods listing, FOR125
- Print forecasting parameters (application control), FOR100
- Print forecasts Vs base report, FOR200
- Print forecasts Vs open orders report, FOR240
- Print forecasts, FOR210
- Print item class/warehouse overrides listing, FOR145
- Print item/warehouse data, FOR175
- Print methods and error techniques, FOR115
- Print outliers report, FOR260
- Print product line summary report, FOR220
- Print seasonality factors listing, FOR135
- Print seasonality history listing, FOR165
- Print security code listing, FOR185
- Print tracking signals report, FOR250
- Purge and roll historical data, FOR900
- Record year-end seasonality history, FOR940
- Select simulation model, FOR600
- Update current demand, FOR910
- Update current forecast, FOR920
- Update open orders, FOR915

Note: The same inquiries are available for forecasts and simulations. All forecast reports are also available for simulations except the tracking signal and outliers reports. Access the programs for forecasts through the Forecasting menu, FOR. Access the programs for simulations through the Forecasting Simulation menu, FOR02.

Forecasting menus

Menu FOR, Forecasting Menu, contains all the programs that you need for creating and using forecasts. This menu provides access to:

- Forecast modeling and generation
- Forecast adjustment
- Generation of constants
- Loading of forecasts to master production scheduling and material requirements planning forecasts
- Forecasting inquiries and multiple reports
- Period close and year-end closing procedures
- The Forecasting Maintenance menu (FOR01) and the Forecasting Simulation menu (FOR02)

You can also select specific menu options or choose to display another menu. You may select specific menu options by entering the appropriate menu option number into the "Enter Option Number or Product Code" field. You may display the menu for another product by entering the three-character sequence that identifies the product, such as CST for the Cost Accounting menu.

Forecasting maintenance

Menu FOR01, Forecasting Maintenance menu, provides access to:

- Forecast basis data and item/warehouse data initialization
- Maintenance and printed listings of forecasting parameters, methods, error calculation techniques, forecast periods, seasonality factors and history, forecast basis data, item warehouse data, item class/warehouse overrides, and simulation security codes.
- The Forecasting menu (FOR) and the Forecasting Simulation menu (FOR02)

You can also select specific menu options or choose to display another menu. You may select specific menu options by entering the appropriate menu option number into the "Enter Option Number or Product Code" field. You may display the menu for another product by entering the three-character sequence that identifies the product, such as CST for the Cost Accounting menu.

Forecasting simulation

Menu FOR02, Forecasting Simulation menu, provides access to:

- Forecast simulation modeling and generation
- Forecast simulation adjustment
- Maintenance of item/warehouse data for simulations
- Copying a forecast to a simulation model, and vice versa

- Forecasting simulation inquiries and multiple reports
- Backup and deletion of forecast simulations
- The Forecasting menu (FOR) and the Forecasting Maintenance menu (FOR01)

You can also select specific menu options or choose to display another menu. You may select specific menu options by entering the appropriate menu option number into the "Enter Option Number or Product Code" field. You may display the menu for another product by entering the three-character sequence that identifies the product, such as CST for the Cost Accounting menu.

Chapter 3
Programs

3

Forecasting application control, FOR100D

Before you use the Forecasting application, you must set system parameters in SYS100. Update the ZPA file to identify the item grouping hierarchy levels and the customer grouping hierarchy levels.

Using SYS100, enter the following information:

- Record Key=AFVPRDHL
- Record ID=AF

- Data Fields=Y and N

Specify No in the position of each invalid hierarchy level for grouping type.

If you process Item/Warehouse forecasts in Infor LX, both hierarchy levels must be zero to produce JFC/JFI (Forecast Item/Warehouse Data and Detail files) forecasts.

Use Forecasting application control, FOR100D, to set up the parameters for the Forecasting application. You must set these up before you perform any other Forecasting activities.

Access: Menu FOR01

Specify forecasting parameters

Use the Forecast Application Control screen, FOR100D-01, to specify forecasting parameters.

Field descriptions - FOR100D-01

Fields	Description
Current Year and Period (4,0):	Specify the numbers that represent the year and period of the last period closed. For example, if the current open period is the month of January, you would specify December of the previous year as the current period for this application. Be sure to use the YYPP (Year/Period) format; that is, specify the number of the year first and the period last.

Infor LX uses this entry for all reports and inquiries. Once you set this date, the system updates both the year and period every time you execute the Purge and Roll History, program, FOR900D.

Fiscal Year First Period (2,0):

Specify the number of the first period of the fiscal year based on calendar-year period numbers. For example, if the first period of the calendar defined within the, Forecast Periods program, FOR120D1, is January, specify 03 if the fiscal year begins in March. If the first period of the calendar year is March, specify 01 if the fiscal year begins in March.

The system uses this value to allow various report programs to generate information for the rest of the fiscal year, as opposed to the rest of the calendar year. You can enter 1 through 13, but the number must be less than or equal to the number of periods per year.

Number of Periods per Year (2,0):

Specify a value between 1 and 13 to specify the number of periods per fiscal year for all forecasts. This is a critical field. This field determines the number of buckets of data Infor LX retains for basis demand, forecast and seasonality data, as well as the number of buckets retained for the associated history data. This field also determines the number of times that you must perform the period closing procedures per year and the general appearance of all reports and inquiries.

Because this entry determines the manner in which all forecasting-related values are organized and stored, it determines a fundamental characteristic of your forecasting system. Do not change this value after you load forecast data.

Warning: Do not change the number of periods for your Forecasting system. If you change the number of periods per year, you must manually adjust all forecasting tables and data records to reflect the new number of periods. You must manually adjust all period master, seasonality, seasonality history, item class/warehouse and item class records in the system for every item and every warehouse.

Number of Periods for Modeling (1,0):

Specify a number between 1 and 9 to specify the number of periods to use for forecast modeling. Forecast modeling is the process of comparing the values generated by two or more forecasting techniques for a given period of recent history to the forecast basis values for the same period. Modeling determines which technique produces the best approximation. The reasoning is that the selected technique produces the best long-range forecast for the given set and pattern of basis values. The recent history time periods are called modeling periods. You determine the number of modeling periods in this program.

The number of modeling periods can range from 1 through 9, but it must be less than or equal to the number of periods per year.

The Modeling program, FOR500B1, processes specific item and warehouse combinations that are set up for modeling. Specify these combinations by setting the Forecasting Flag in Item Warehouse Data, FOR170B1.

During forecast modeling, Infor LX automatically selects the forecasting method used to generate a forecast for the specified item and warehouse combination. The forecasting method can vary from time to time for the same item and warehouse. This happens because different techniques may produce better approximations for different patterns of basis values.

Security for Copy from Simulation (1,0):

Accept the default of 0 if you do not want to use password security to transfer simulation file data to the Forecasting file (JFC/JFI) in the Copy Simulation to Forecast program, FOR620D. Specify 1 to use password security for that program.

If you specify 1, you must set up at least one password through Simulation Security Codes Maintenance, FOR180D1. You can set up more than one password including blank passwords. Users must specify one of these valid passwords before they can execute the FOR620D program.

The password security feature protects the Forecasting data that is loaded to the MPS/MRP Forecasting file (KMR) from being inappropriately or inadvertently changed.

Seasonality Used (1,A):

Specify how Infor LX uses seasonality constants. Valid choices are:

0

Allow only the 00 table to be assigned to all item and warehouse combinations through the Item Warehouse Data program, FOR170B1. The 00 table is a pre-defined seasonality table that initially assigns a seasonality factor of 1.0000 to all periods. All periods are treated equally, that is, without seasonal variation.

1

Use tables of manually entered seasonality values, as entered from the Seasonality Factors program, FOR130D1. You can create and maintain up to 100 separate seasonality tables through FOR130D1. You then assign them to item and warehouse combinations through Item Warehouse Data (FOR170B1). By specifying 1 here, you can assign seasonality tables freely throughout the system.

2

Use either 1 for actual seasonality history or 2 for any seasonality table specified for each different item and warehouse combination. You can specify which seasonality data you want to use for each different item and warehouse combination through Item Warehouse Data, FOR170.

Deseasonalize Outlier Demand (1,0):

Use this parameter to determine whether forecast demand should be adjusted for seasonality prior to calculating outliers. Valid choices are:

0

Do not de-seasonalize demand data.

1

De-seasonalize demand data.

Years to Forecast (1,0): Specify 1 or 2 for the number of years into the future for which you want to perform forecast generation. This value is used by the Modeling program, FOR500B1, and the Forecasting Inquiry program, FOR300B1.

Years of History to Retain (2-8) (1,0):

Specify a value between 2 and 8 to represent the number of years of history you want Infor LX to store for seasonality factors, basis data, and forecast values. The default value is 2.

If disk space utilization is a concern, consider retaining the minimum, two years of history.

The following programs use this value to control the number of years of basis data retained and the total number of buckets of history stored.

- Forecast Basis, FOR010D
- Item Warehouse Data from Basis, FOR020D
- Purge and Roll History, FOR900D

Note: If you change this value after you load the data you may get unpredictable results.

Years of History to Use (1-8) (1,0):

Specify a value between 1 and 8 to specify the number of years of history that you want Infor LX to use in generating forecasts. (The default value is 8.) This value applies only to those forecasting techniques that require more than the minimum amount of history. For example, the Old=New technique always uses the previous year basis values, regardless of the value you enter in this field.

This value is used by the Modeling (FOR500), the Forecast Generation (FOR510), and the Forecast Inquiry (FOR300) programs.

Include Resupply Orders in Demand (1,A):

This field is displayed only if the Distribution Resource Planning (DRP) product is installed on your system.

Specify 1 if you want resupply orders that are created through the Generate Resupply Orders program, DRP541, to be included in the basis data totals. These totals are collected from the Order Detail file, ECL, and loaded to the Forecast Basis file, JFB, by the Forecast Basis from Sales, FOR010, and the Update Current Orders, FOR915, programs.

Specify 0 to exclude resupply orders from the forecast basis data.

This value applies to all forecasts that use actual order history as the basis data from which forecasts are generated. The method used for a particular forecast is specified through Item/Warehouse Data, FOR170.

Forecast/SPM Relationship (1,A):

Use this field to identify the relationship between the Forecasting and an external forecasting product. Identify how the system generates forecasts by item number and warehouse code. The following are valid options for forecasting:

0

An external forecasting product is not installed.

1

An external forecasting product is installed, but you use Forecasting to create item/warehouse forecast records.

2

An external forecasting product is installed and you use this product to generate item/warehouse records. This restricts using FOR020 and FOR930 which update item/warehouse records from the Basis File.

Group Descriptions

Since Forecasting allows you to create forecasts for dynamic combinations of product and customer hierarchies, the description used to prompt for and label these values on inquiries and reports are user-defined.

If you are not using the Bottom-Up/Top-Down forecasting functions or if you do not have an external forecasting product installed your forecast processing will be limited for forecasting by item and warehouse combinations. In this case you may want to change the item group descriptions to item and item number and the customer group descriptions to warehouse and warehouse code.

If you use Bottom-Up/Top-Down Forecasting, enter meaningful and user-specific descriptions.

Product Grouping Description - Short (4,A):	Specify the four-character description that is used as the heading on screens and reports to identify the item group field.
Product Grouping Description - Long (13,A):	Specify the description that is used on most screens and reports to identify the item group field.
Customer Group Description - Short (4,A):	Specify the four character description that will be used as heading on screens and reports to identify the customer group field.
Customer Group Description - Long (14,A):	Enter the long item group description that is used on most screens and reports to identify the customer group field.

Screen actions - FOR100D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Application control listing, FOR105

This program prints a list of the entries you made in the Forecasting Application Control program, FOR100.

Access: FOR01

Specify how to print control report

Use the Application Control List screen, FOR105D, to specify whether you want to print the Forecast Application Control Parameters listing interactively or in batch mode.

Field descriptions - FOR105D1-01

Fields	Description
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR105D1-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Methods and errors, FOR110D1

Use the Methods and Errors program, FOR110D1, for the following purposes:

- To adjust the basic definition information for both the standard forecast generation and the standard error calculation methods
- To create the system's forecast generation and error calculation definitions for techniques that you have created.

In this program, you must specify basic data about each technique, such as a brief description, the subroutine name and the minimum number of historical periods needed for the technique to function properly.

To modify or create data with this program you must specify either a method or an error type code. This code may be any alphanumeric character and depending on the mode you select, it represents an error technique or a forecasting method. The same character can be used to identify separate error and forecast generation techniques; however, a single character can never represent more than one error technique nor can it represent more than one forecast technique at a time.

Method codes 1 through 9 are reserved method type codes, as are error type codes 1 through 3. This means that they represent, or could represent at some future time, standard Infor LX techniques. Specifically, method type codes 1 through 5 represent the five original forecasting methods:

- 1 = Exponential Smoothing
- 2 = Least Squares
- 3 = New Equals Old
- 4 = Trend Seasonality
- 5 = Average Change and Seasonality

Error codes 1 through 3 represent the three standard error methods:

- 1 = Mean Absolute Deviation
- 2 = Mean Absolute Percent Error
- 3 = Mean Squared Error

Although you can change the standard data for each of these codes, do not assign these codes to other techniques since Infor LX assumes that these reserved methods represent the standard techniques.

If you create forecast techniques, actual software adjustments must be made to the source and object members of at least three separate programs: Forecast Inquiry (FOR300), Modeling (FOR500), and Forecast Generation (FOR510).

In addition, you must also adjust the Forecast Analysis program, FOR230, to include the new technique for user-defined forecast error techniques. The Methods and Errors program, FOR110, simply updates the method or error records in the System Parameter file. Infor LX also relies on the information you establish from this program for basic data, such as the minimum number of historical periods needed to use a given error or method technique.

Access: Menu FOR10

Specify type to create or maintain

Use the Forecasting Methods and Errors screen, FOR110D1-01, to specify the code of the forecasting method or error calculation method to be maintained.

Field descriptions - FOR110D1-01

Fields	Description
Type (1,A):	Specify the code of the forecasting method or error calculation method to be maintained. To maintain the definition data for either a standard error or a

standard forecast method, specify the appropriate reserved type code, as discussed in the Overview section above.

Screen actions - FOR110D1-01

Commands	Description
All screen actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Specify methods and errors

Specify the forecasting or error calculation technique on the Forecasting Methods and Errors screen, FOR110D2-0.

Field descriptions - FOR110D2-01

Fields	Description
Long Description (30,A):	Specify a description of the method or error. This description should help users confirm that they have entered the correct type code on the first screen. This description is not used by any other programs or for any processing.
Short Description (10,A):	Specify a short, descriptive name for the method or error. The Modeling program (FOR510) uses this entry to identify the selected method. This name is also displayed in the Forecast Inquiry program, FOR300.
Subroutine Name (6,A):	Specify the name that Infor LX uses to identify the subroutine during internal processing. For all user-defined subroutines, you determine this name if you create the technique. However, this entry is used for your reference only. By determining a subroutine name, you can identify a subroutine within the source code to which you want to make adjustments or simply to view the source code.
Minimum Calculation Periods (2,0):	This field is only displayed if you are maintaining a forecasting method. Specify the minimum number of historical periods that must be used for this method. Each standard technique has a predefined number of periods needed to generate forecasts, which you can adjust. More importantly, you must specify a minimum number of periods for all user-defined techniques.
	Infor LX does not use the techniques if there is less than the required number of historical periods. In such cases, the system indicates that there is insuffi-

cient data when it attempts to generate the forecast through the Modeling (FOR500), the Forecast Generation (FOR510), or the Forecast Inquiry program (FOR300).

Note: Since Infor LX is initially set up to use 13 periods by default, you must adjust the minimum number of periods value if you decide to use fewer than 13 periods. You can also adjust this value if you have more than two years of history. Become familiar with the number of review periods for each of the predefined forecasting techniques (1 through 5).

Minimum Review Periods (2,0):

The system displays this field if you are maintaining a forecasting method. Specify the minimum number of historical periods that should exist for Infor LX to use this technique. The system can use a technique if less than the number of minimum review periods were stored. In this case, the system sets a review flag for the generated forecast that causes an R to print on all forecasting reports. This flag indicates that the forecast results should be reviewed carefully since they were generated with insufficient historical backing. In cases where two or more forecasts produce equally accurate results, the review flag can also be used as the deciding factor, because in this case, the system selects the method that generated the results from sufficient historical data.

The value of the Minimum Review Periods entry cannot be zero. Often users begin to process by setting the Minimum Review Periods equal to the Minimum Calculation Periods. This value can be adjusted at a later time, if necessary. The default value for this field is set for a planning year with 13 periods, so you must adjust this value if you adjust the number of periods per year through the Application Control program, FOR100.

The following table contains the default Minimum Calculation Periods and Minimum Review Periods values.

Forecasting Method 1
- Description: Exponential Smoothing
- Subroutine: EXPON
- Min. Calc. & Review: 1 year + modeling period

Forecasting Method 2
- Description: Least Squares
- Subroutine: LEAST
- Min. Calc. & Review: 1 year + modeling period

Forecasting Method 3
- Description: New Equals Old

- Subroutine: NWOLD
- Min. Calc. & Review: 1 year + modeling period

Forecasting Method 4

- Description: Seasonality and Trend
- Subroutine: SEATR
- Min. Calc. & Review: 1 year + modeling period

Forecasting Method 5

- Description: Aver. Change & Seasonality
- Subroutine: AVCHG
- Min. Calc. & Review: 2 years + modeling period

Screen actions - FOR110D2-01

Commands	Description
All screen actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Methods and errors listing, FOR115D

The Methods and Errors Listing program, FOR115D-01, prints a listing of the forecasting methods and error calculation techniques set up in the Methods and Errors program (FOR110).

Access: Menu FOR01

Specify selection criteria for report

Use the Methods and Errors Listing program, FOR115D-01, to specify what you want the Methods and Errors report to include, and whether you want to generate the report interactively or in batch more.

Field descriptions - FOR115D-01

Fields	Description
Print Methods? (1,A):	Accept the default entry Y in each of these fields to print all forecasting method techniques/forecasting error calculations. Specify N if you do not want the specific data to print.
	The entries in these fields do not have to be the same.
Print Errors? (1,A):	Accept the default entry Y in each of these fields to print all forecasting method techniques/forecasting error calculations. Specify N if you do not want the specific data to print.
	The entries in these fields do not have to be the same.

Screen actions - FOR115D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Forecast periods, FOR120D1

Use this program to assign date ranges to each period of the forecasting year for a particular warehouse and year. You can also define the period date ranges for Bottom-Up/Top-Down forecasts. The basic number of periods per year is defined for all forecasts in the Application Control program (FOR100). Use the Forecast periods program, FOR120, to vary the specific date ranges of each period between warehouses and from year to year.

You must define period cut-off dates for two basic reasons. First, cut-off dates provide date ranges so that Infor LX can separate basis data into period buckets according to the number of periods specified through the Application Control program (FOR100). Infor LX uses the cut-off dates for the current period and for all historical periods to consolidate basis data in this manner. You must define the cut-off dates for all historical periods before executing the Forecast Basis program, FOR010, to initialize the basis data files. There is no effect on the respective bucket values if you change the period dates after the basis files are initialized.

The second reason for defining period cut-off dates is that Infor LX uses these dates to provide time periods with which forecast quantities can be associated. The cut-off dates for all future periods are used in this manner.

Define period cut-off dates for at least the previous year, the current year, and for the next year into the future. If you create forecasts for two years, you must specify the cut-off dates for each of the next two years. In addition, Infor LX requires cut-off dates for each year of history used. If these dates vary for each year, you must define period dates for each year separately. However, if the period cut-off dates remain unchanged from year to year, the system can generate the cut-off dates for all necessary historical years. This is done when Infor LX is initially installed and files are initialized.

You can also set an Allow Maintenance flag for each period using this program. This flag determines whether the forecast and forecast basis value for each separate period can be manually changed for each different Product group/customer group combination from the Item Warehouse data program, FOR170.

Access: Menu FOR01

Specify period to maintain

Use Forecasting Period Maintenance screen FOR120D1-01 to specify what warehouse and period you want to maintain.

Field descriptions - FOR120D1-01

Fields	Description
Warehouse (3,A):	Specify the warehouse code for the forecasting periods being maintained. The period ending dates and the forecast year are linked to warehouse codes so that you can vary the timing of forecast requirements slightly for different warehouses. Infor LX generates forecasts for item and warehouse code combinations, rather than just for the item, because location(for example, warehouse) plays a significant role in the demand pattern for a particular item. Warehouse codes are maintained through the Warehouse Master Maintenance program (INV110).
	To use Bottom-Up/Top-Down Forecasting, leave the warehouse code blank. This will allow you to maintain one global period master for all forecasts generated except by item number and warehouse code (these will use the warehouse-specific period master).
Year (4,0):	Specify the four digits of the year for which the forecasting periods are being maintained.

Screen actions - FOR120D1-01

Commands	Description
All Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Specify forecast periods

Infor LX displays the Forecasting Period Maintenance screen, FOR120-02. Use this screen to provide information to specify the forecast periods.

Field descriptions - FOR120D2-01

Fields	Description
Start Date (6,0):	Specify the beginning date of the first planning period for the specified warehouse and year. Specify the date in the time zone for the warehouse. Enter the starting date for only the first period. Infor LX automatically determines the starting dates of all remaining periods. The system uses the resulting date ranges to group basis data into bucket totals or to assign forecast demand levels to discrete periods of time.
	If the first period of the fiscal year (as defined in FOR100) is not January, the period table will span more than one calendar year. For example, define the 2002 table beginning with July 2001 and ending in June 2002 for a company whose fiscal year begins in July.
End Date (6,0):	Specify the ending date for the period indicated by the Period Number. Specify the date in the time zone for the warehouse.
Maint (Maintenance) Allowed Y/N (1,A):	Specify Yes if you want to be able to adjust the basis, the forecast, or the forecast history for the period whose ending date is immediately to the left. You can then adjust the individual period values through the Item Warehouse Data program (FOR170).
	Specify No if you do not want users to be able to adjust the forecast and basis values for the specified warehouse and year during a specific period.

Screen actions - FOR120D2-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Forecast period listing, FOR125D

This program prints a listing of the forecast period information you entered in the Forecasting Periods program, FOR120.

Access: Menu FOR01

Specify report

Use Forecast Period Listing, FOR125D, to specify a range of warehouses and years to include in the forecast period listing. This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR125D-01

Fields	Description
From Warehouse (3,A):	Specify a range of values to limit the warehouse codes to include in the report.
To Warehouse (3,A):	Specify a range of values to limit the warehouse codes to include in the report.
From Year (2,0):	The date range defaults to the lower and upper century dates as defined in SYS820D - Company Name and Date Format. The lower value of the range is 19XX, where XX is the century date year. The upper value of the range is 19XX plus 99 years. If the century date year is 50, the lower value will be 1950 and display as 50, and the upper value will be 2049 and display as 49. Dates entered into the From Year default to 19XX if greater than or equal to the century date year, and default to 20XX if less than the century date year.
To Year (2,0):	The date range defaults to the lower and upper century dates as defined in SYS820D - Company Name and Date Format. The lower value of the range is 19XX, where XX is the century date year. The upper value of the range is 19XX plus 99 years. If the century date year is 50, the lower value will be 1950 and display as 50, and the upper value will be 2049 and display as 49.

Dates entered into the To Year default to 19XX if greater than or equal to the century date year, and default to 20XX if less than the century date year.

Run Time Parameter (1,0): Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR125D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Seasonality factors, FOR130D1

This program allows you to establish seasonality table values. A seasonality table contains individual, user-defined seasonality factors for each period of the forecast year. These tables can be used to control the values of the seasonality factors, to supply values where none exist, or to replace recorded values that do not accurately represent an item/warehouse's true seasonality.

For example, you can use seasonality tables when you begin using Infor LX Forecasting with no initial basis history and no recorded seasonality factors.

After you create a seasonality table, you can use it to override recorded seasonality values at either the Item Class/Warehouse level or at the Item/Warehouse level. You can use either the Item Class/Warehouse Overrides program (FOR140) or the Item Warehouse Data program (FOR170) to assign a seasonality table to the respective levels.

The item class/warehouse overrides are used only if the system creates new records in the Item/Warehouse data and does not affect existing records (that is, only where item/warehouse data is not specified). You can use these two programs to specify a different seasonality table, or to specify that actual seasonality values should be used.

Access: Menu FOR01

Add or specify seasonality table

Use the Seasonality Factors screen, FOR130D1, to create a new seasonality table or specify an existing one to modify, copy, view, delete or print.

Field descriptions - FOR130D1-01

Fields	Description
Table (2,0):	Specify the number of the seasonality table to be maintained. This number must be between 00 and 99. Each number uniquely identifies a seasonality table.

Screen actions - FOR130D1-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Specify seasonality factor

If you continue with Seasonality Table Maintenance, Infor LX displays the Seasonality Factors Maintenance screen, FOR130D2-01. Use this screen to specify a seasonality factor.

Field descriptions - FOR130D2-01

Fields	Description
Seasonality Factor (5,4):	Specify the seasonality factor for each forecast period.
	Seasonality factors must be 0 (blank) or greater. You cannot use negative seasonality factors because they produce negative values; negative values are not realistic for either basis or forecast demand. Seasonality factors can equal 0 (blank) for individual periods as long as the total for all periods equals the number of forecasting periods.
	If you assign this table to the item/warehouse or to the item class/warehouse level forecast data, Infor LX uses these factors in place of seasonality factors that were computed from the actual stored data of the previous year. Use the Item/Warehouse Data program (FOR170) or the Item Class/Warehouse Overrides program (FOR140) to assign the table (SH) to the appropriate data levels.
	Infor LX can then use these factors in the Forecasting Inquiry (FOR300), the Modeling (FOR500), or the Forecast Generation (FOR510) programs; however, you can use different table numbers only if you made the appropriate entries

to the Seasonality Used field from the Application Control program, FOR100. The valid entries to the Seasonality Used field are listed below.

N

00 is the only valid table number to indicate no seasonality.

Y

Use any valid seasonality table.

H

Use history (SH) or any valid table number.

Infor LX uses seasonality factors to de-seasonalize basis demand values prior to using them in forecasting calculations and to seasonalize computed forecast approximation values to adjust for predictable period-to-period fluc- tuations. This means that the system uses these factors to apply corrections to either the demand values to eliminate compounding seasonal fluctuations through the forecasting calculations or to adjust computed forecast values to include predictable variations.

Infor LX performs these adjustments by either dividing a basis demand value for a given period by the seasonality factor for that period or by multiplying a computed forecast value by the appropriate factor. Therefore, to reduce the value of a particular basis value and to adjust the final forecast value upward, the seasonality factor for the period should be greater than 1.0000. Conversely, to increase the value of a basis value prior to using it to compute a forecast value and to decrease the final forecast value because you anticipate a slightly lower than average demand for a period, the seasonality factor for that period should be less than 1.0000. Of course, if the demand for a period is typically average, the seasonality factor should be 1.0000.

Finally, the concept of seasonality is to apply minor corrections to a period value that normally deviates from what you would expect for an average period to bring it more in line with the average value. You can think of the average as being the individual basis values or the forecast values. Since the sum of individual average values always equals the end total, it makes sense that if you adjust either the basis or forecast value upward for a given period, for example, you must expect to adjust a similar value for some other period downward. In fact, the total upward adjustments should equal exactly the total downward adjustments for the planning year. Therefore, the sum total of the individual seasonality factors should equal the number of periods you estab- lished for the planning year through the Application Control program, FOR100.

The system displays an error message if the sum is not equal to the number of periods. You can override the message and accept the data.

Screen actions - FOR130D2-01

Commands	Description
All screen actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Seasonality factors listing, FOR135D

This program prints a listing of the seasonality tables you created in the Seasonality Factors program, FOR130, for the range of table values that you specify.

Access: Menu FOR01

Specify seasonality tables range

Use the Seasonality Factors List screen, FOR135D, to select a range of tables to include in the listing.

Field descriptions - FOR135D-01

Fields	Description
From Table Number (2,0):	Specify the lower and upper table numbers to designate the range for which to print the seasonality factors listing.
To Table Number (2,0):	Specify the lower and upper table numbers to designate the range for which to print the seasonality factors listing.

Screen actions - FOR135D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Item class/warehouse overrides, FOR140D1

Use this program to define override constants at the item class and/or warehouse levels. These constants provide information about the forecasting and error techniques to be used for a particular item class and/or warehouse combination. They specify values of various constants used to generate forecasts for those goods.

For example, you can define the values of the various smoothing factors used to calculate forecasts and errors for the specified group of items; you can define the forecasting methods that can be used for those items; and you can define the value of the long-term adjustment factor.

The information established here should be valid for all items that use the same warehouse and/or item class codes.

After forecasts have been generated for an item and warehouse, you cannot update these values by using the Item Class/Warehouse Overrides program, FOR140. You can make adjustments to existing data by using the Item Warehouse Data program, FOR170.

The following equation is used to calculate a trend line:

Equation to Calculate the Trend Line

The equation used to calculate the trend line is the least squares statistical algorithm. This algorithm generates a straight line through the data points (one to eight years of forecast history), one demand point per historical demand period, such that the distance between each data point and the trend line is minimized. The equation measures the distance from the data point to the line (the deviation), squares this distance (squared deviation), and adds the squares of all the deviations. If the sum of these squared deviations is minimized, the resulting trend line is considered "best fit."

Equation to Calculate the Outliers

Once the trend line is determined using the Least Squares statistical algorithm, the equation used to calculate outliers sums all the (absolute) deviations then divides by the number of deviations to compute the average deviation. It then sets an upper limit as:

Trend line value+ the average + the mean average deviation x (1 + Irregularity Smoothing Percent).

It sets the lower limit as:

Trend line value - average deviation x (1 + Irregularity Smoothing Percent).

Demand values that qualify as outliers as reassigned to the value of the upper limit (positive outliers), or to the value of the lower limit (negative outliers).

Note: If the Irregularity Smoothing Percent is blank, the outlier calculation is bypassed and all values are used to determine the forecast values.

Define the Irregularity Smoothing Percent Default in FOR140 for Item Class and Warehouse. You can define an override for individual items at the item/warehouse level in FOR170 if you forecast by item/warehouse.

Years to use for forecast history (1-8) is a parameter that is set in FOR100 - Forecasting Parameter Maintenance.

Infor LX uses the following hierarchy for item class/warehouse information:

1. Specific item class and specific warehouse (first validation check)
2. Specific item class and blank warehouse (if Level 1 fails)
3. Blank item class and specific warehouse (if Level 2 fails)
4. Blank item class and blank warehouse (if Level 3 fails)

Access: Menu FOR01

Create or modify overrides

Use the Item class/warehouse Overrides screen, FOR140D1, to create a new override constant at the item/class or item/warehouse level, or to specify an existing one to modify, copy, view, delete or print.

Field descriptions - FOR140D1-01

Fields	Description
Item Class (5,A):	Specify a valid item class code or leave the field blank to define the default override constants for all items in the specified warehouse. The system uses the default if more specific data is not set up.
	Define valid item class codes through the Item Class Maintenance program, INV160, and assign them to individual items through IDF Enterprise Item.
	Infor LX uses this information to create forecasts for items of this item class. If a particular item requires unique information, you can set up item level data in the Item Warehouse Data program, FOR170.
Warehouse (3,A):	Specify the code of the warehouse for which you are defining the data. Valid warehouse codes are defined through the Warehouse Master Maintenance

program, INV110, and can be associated with any item. This field allows you to define different forecasting data for each different warehouse used for items with the specified item class code. This is important since demand characteristics typically vary for each different item and each different location.

If you leave this field blank, the information you set up here is the default for items of the designated item class in all warehouses. The default is used only if more specific data is not set up.

Note: If you leave the Item Class or Warehouse field blank, the system displays a message to make sure that you realize you are maintaining global information. You must press F13 to continue.

Screen actions - FOR140D1-01

Commands	Description
F13=Filters	Use F13=Filters to use the Filter window to select how you want information in this screen displayed or selected.
Standard screen actions	All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Specify information for overrides

If you continue with Item Class/Warehouse Overrides Maintenance, Infor LX displays the Item Class/Warehouse Overrides screen, FOR140D2-01. You can update the parameters in the Item/Warehouse Forecast Control, JFC, file by pressing F9=Create from this screen. You can maintain the same parameters manually by Item Class/Warehouse in the Item/Warehouse Data program, FOR170.

Infor LX changes the control parameters on JFC records only if the Product (Item) Group=0 or blank and Customer (Warehouse) Group=0 or blank only.

Based upon what you enter in the Item Class and Warehouse fields, Infor LX updates the default values in the JFC file as follows:

- Item Class and Warehouse are both blank - Infor LX overwrites all JFC records with the values you enter on this screen.
- Item Class has a value and Warehouse is blank - Infor LX overwrites all JFC records for this item class with the values you enter on this screen.
- Item Class is blank and Warehouse has a value - Infor LX overwrites all JFC records for this warehouse with the values you enter on this screen.
- Item Class and Warehouse both have values - Infor LX overwrites all JFC records for this item class and warehouse combination with the values you enter on this screen.

Field descriptions - FOR140D2-01

Fields	Description
Forecasting Base (1,A):	Specify a D (Demand), F (Forecast) or O (Orders) to specify the type of data that you want to use as the basis for generating forecasts for the specified item class/warehouse combination.
	D
	Default. Infor LX uses all B-type transactions from Transaction History file, ITH, to generate the forecasts.
	F
	Infor LX uses the forecast values from the MPS/MRP Forecasting file, KMR.
	O
	Infor LX uses the order data from the Order Detail file, ECL.
	The raw data can be loaded into period bucket totals by any of the initialization procedures described early in the System Flow section. However, you can accumulate the bucket totals at the end of each period by executing the appropriate Update program (FOR910, FOR915, or FOR920) followed by the Load Item/Warehouse from Basis program, FOR930.
	After the data is transferred, it can be manually maintained through the Item Warehouse Data program, FOR170; however, you can adjust the forecast data before updating the bucket values by using the Forecast Basis program, FOR150. Refer to the instructions for these programs in this document.
Deviation Measurement Method (1,0):	Enter any valid user-defined error method code to indicate the type of error calculation you want Infor LX to use for this item class and warehouse. The standard error techniques are represented by their respective method codes as follows:
	Error method code - 1
	■ Long error type name: Mean Absolute Deviation ■ Name abbreviation: MAD ■ Subroutine: MAD
	Error method code - 2
	■ Long error type name: Mean Absolute % Deviation ■ Name abbreviation: MAPE ■ Subroutine: MAPE
	Error method code - 3
	■ Long error type name: Mean Squared Error ■ Name abbreviation: MSE

- Subroutine: MSE

Infor LX uses the specified method to measure the respective error values during forecast modeling, FOR500. The error values provided by the Forecast Analysis program, FOR230 are also computed by using this error method. The default error method is 1.

Forecasting Methods Array (5,0):

Specify up to five forecasting type codes to specify the techniques to be used by the Modeling program, FOR500, to perform modeling for this item class and warehouse combination.

The standard forecasting type codes are listed below. However, you can specify any forecasting technique that you defined through the Methods and Errors program, FOR110.

Forecasting type code - 1

- Description: Exponential Smoothing
- Subroutine: EXPON
- Minumum calculation: 16 Periods
- Minumum review: 16 Periods

Forecasting type code - 2

- Description: Least Squares
- Subroutine: LEAST
- Minumum calculation: 16 Periods
- Minumum review: 16 Periods

Forecasting type code - 3

- Description: New Equals Old
- Subroutine: NWOLD
- Minumum calculation: 13 Periods
- Minumum review: 13 Periods

Forecasting type code - 4

- Description:Seasonality and Trend
- Subroutine: SEATR
- Minumum calculation: 16 Periods
- Minumum review: 16 Periods

Forecasting type code - 5

- Description: Average Change and Seasonality
- Subroutine: AVCHG
- Minumum calculation: 26 Periods
- Minumum review: 26 Periods

The default entry for this field is 12345. This entry indicates that if the system performs forecast modeling for a given item and warehouse combination, it

uses the five standard forecasting techniques. For example, to use only methods 1, 3 and 4, type 134 in this field.

Do not leave blanks between the code numbers. Also, if two or more methods produce an equally accurate forecast, Infor LX uses the order of these numbers to determine which method to use. The order of preference decreases from left to right.

If this field is left blank, the system does not perform modeling or generate forecasts for this item class and warehouse combination.

Seasonal Item Control Code (2,A):

Specify a number between 00 and 99 or type the SH. These entries indicate the seasonality data that Infor LX uses with forecasting calculations that use seasonality factors (for example, Holt-Winters, Seasonality and Trend, and Average Change and Seasonality). The valid entries for this field depend on the entry you made to the Seasonality Used field in the Application Control program, FOR100.

See the table below for a list of entries in the Seasonlity Used field in FOR100 and the corresponding valid entries for the Seasonal Item Control Code field.

- Seasonality Used: Yes
- Seasonal Item Control Code: 00 through 99

- Seasonality Used: No
- Seasonal Item Control Code: 00

- Seasonality Used: History
- Seasonal Item Control Code: 00 through 99 or SH

The numbers 00 through 99 represent tables of seasonality values. You create all of these tables except 00 through the Seasonality Factors program (FOR130). The "00" table is the standard table used by the system to compute forecasts without seasonal variation. It can also be maintained through program FOR130. The seasonality factor for each of its periods is 1.0000, so each period is weighed equally throughout all forecast calculations.

If your system uses fewer than 13 periods per year, you must adjust the 00 table to contain only the number of seasonality factors needed.

SH is the seasonality code that instructs the system to use the actual seasonality values from the Seasonality History file, JFH, that were generated by the Year End Seasonality Factors program, FOR950. These values are computed from the previous year basis values.

The default value for this field is 00 or SH, depending on the entry you made to the Seasonality Used field from the Application Control program, FOR100. You can override this value by entering the desired entry directly over the default value.

Forecasts per Period for MRP (2,0):

The MRP forecast file, KMR, can define periods at a lower level than Infor LX Forecasting, for example weeks in MRP versus. months in Forecasting. This field contains the number of MRP periods, 1-99, per Forecasting period. This number is used to subdivide each Forecasting period into smaller units to be loaded to the MPS/MRP Forecasting file, KMR, through the Load Forecast to MPS/MRP program (FOR540). Although you can divide each forecasting period into as many as 99 sub-periods, no sub-period can be less than a day. If you specify more periods per forecast than there are days in the periods, the system creates only as many sub-periods as there are days in the periods. Sub-periods cannot contain any fractional days. If the number of days in each of sub-periods is unequal, the system divides the period so that only the last period contains an odd number of days.

The default value for this field is 1.

Alpha Smoothing for Average (5,4):

Specify the values for the exponential smoothing factors that are to be used throughout the system as the item class/warehouse default smoothing factors. Refer to the System Functions section for a conceptual description about exponential smoothing.

Alpha Smoothing for Error (5,4):

Specify the values for the exponential smoothing factors that are to be used throughout the system as the item class/warehouse default smoothing factors. Refer to the System Functions section for a conceptual description about exponential smoothing.

Alpha Smoothing for Seasonality (5,4):

Specify the values for the exponential smoothing factors that are to be used throughout the system as the item class/warehouse default smoothing factors. Refer to the System Functions section for a conceptual description about exponential smoothing.

Alpha Smoothing for Trend (5,4):

Specify the values for the exponential smoothing factors that are to be used throughout the system as the item class/warehouse default smoothing factors. Refer to the System Functions section for a conceptual description about exponential smoothing. Briefly, exponential smoothing is a method of averaging data from the current period with data from past periods. The higher the smoothing factor, the more mathematical weight is assigned to the current period value.

Infor LX uses each of these smoothing factors in a similar manner, but for different applications. These applications are listed below.

Smoothing factor - Average

- Name: Holt-Winters
- Applications where used: Seasonality Year End

Smoothing Factor - Error

- Name: none

■   Applications where used: Tracking signal calculation and report

Smoothing Factor - Seasonality

■   Name: Holt-Winters

■   Applications where used: Seasonality Year End

Smoothing Factor - Trend

■   Name: Holt-Winters

■   Applications where used: Seasonality and Trend, Seasonality Year End

Exponential smoothing factors can range from 0.0001 to 0.9999. However, as a matter of practical consideration, exponential smoothing factors that are lower than 0.1 or 0.2 do not assign enough significance to the latest historical data. On the other hand, the value of the smoothing factor should not exceed 0.4 since this assigns too much significance to recent data. Generally, the smoothing factors should range between 0.15 and 0.4, but you can use this rule of thumb: the smoothing factor should be greater than the reciprocal of the number of intermediate periods of history used for the forecast, as follows:

Smoothing Factor > 1/(number of periods of history used)

This logic does not apply during system implementation since there is very little data to begin with. As a result, only recent history data is available for calculations so the default value for all smoothing factors is 0.9000. You can override these values if more data becomes available. The values established in this program are used as default values for all item and warehouse combinations for which forecasts are being generated for the first time. They can be changed for individual item and warehouse combinations through the Item Warehouse Data program, FOR170.

Long Cycle Factor (5,4):   Specify a value between 0 and 9.9999 to set the value of the long cycle factor. Infor LX uses this value as an adjustment factor for the final forecast values. Set this value to apply slight upward or downward adjustments to the forecast across the board. Long Cycle Factors that are less than 1.0000 adjust the forecast downward. Long Cycle Factors that are greater than 1.0000 adjust all computed forecast values upward. Since the system uses this value as a simple multiplier, 1.0000 represents a neutral factor.

Infor LX uses this long term factor in the Modeling (FOR500), Generation (FOR510), and Inquiry (FOR300) programs. The default Long Term Cycle factor is 1.0000.

Irregularity Smoothing Percent (3,1):   Specify a percentage value that indicates the degree to which Infor LX allows basis values to vary from the computed level of trend for any given period. The system replaces abnormally high or low basis values with the respective highest or lowest acceptable values for all forecasting calculations. These values are calculated by first applying the irregularity smoothing percentage

to the level of trend and then adding and subtracting, respectively, the resulting value from the level of trend.

By replacing these outlying values, Infor LX eliminates abnormal spikes in demand, which could skew the final forecast results. You can view the outlying values for all basis data stored in the Forecasting file by printing the Outliers Report (FOR260).

Though the system eliminates the outlying basis values from all forecasting calculations, it does not alter the actual value of the basis value, which is stored permanently in the appropriate item/warehouse record of the Forecasting file (JFC/JFI). All basis values that are within the specified percentage range of the level of trend for a given period are used as normal. There is no default value for this field. The field is initially blank to indicate that the system does not apply a smoothing percent for this item class and warehouse combination.

Screen actions - FOR140D2-01

Commands	Description
F9=Override detail records	Use F9=Override detail records to update the parameters in the Item/Warehouse Forecast Control (JFC) file with the changes that you make on this screen.
Standard screen actions	All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Item class/warehouse overrides listing, FOR145D

This program prints a listing of the forecasting data set up in the Item Class/Warehouse Data program, FOR140.

Access: Menu FOR01

Specify range

This screen contains range fields that you use to limit the data the system selects for item class and warehouse. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR145D-01

Fields	Description
From Item Class (5,A):	Specify a range of values to limit the item class codes to include in the report.
To Item Class (5,A):	Specify a range of values to limit the item class codes to include in the report.
From Warehouse (3,A):	Specify a range of values to limit the warehouse codes to include in the report.
To Warehouse (3,A):	Specify a range of values to limit the warehouse codes to include in the report.

Screen actions - FOR145D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Seasonality history, FOR160D1

This program allows you to adjust the historical seasonality factors for a given item group/customer group/year combination. Infor LX uses computed seasonality factors for three reasons:

- To de-seasonalize basis data
- To seasonalize new forecast values
- To generate new seasonality factors

Infor LX uses either computed seasonality factors, manually entered tables of seasonality constants (as entered from the Seasonality Factors program, FOR130, or no seasonality factors at all for each item group/customer group combination.

You determine how seasonality is handled for each item group/customer group combination through either of two programs. Use the Item Class/Warehouse Overrides program (FOR140) to set up default information for all new item group/customer group combinations. For the purpose of forecasting, new item group/customer group combinations are those for which history is being captured for the first time. Use the Item Warehouse Data program (FOR170) to set up information for a specific item group/customer group combination.

Infor LX uses the seasonality data to perform forecast modeling or generation. This can occur in any one of three programs: Modeling (FOR500), Generation (FOR510), or Inquiry (FOR300). You determine how much seasonality history is stored and used through the Application Control program (FOR100).

Infor LX updates seasonality history to execute the Year End Seasonality program (FOR940). The FOR940 program updates the Seasonality History file (JFH) with the seasonality factors that were used throughout the year. You can adjust the seasonality factor for any period through the Seasonality History program (FOR160).

When you initially set up your Forecasting system, you can define seasonality history through this program, or set up a seasonality table through the Seasonality Factors program (FOR130). If you use the Seasonality History program (FOR160) to create factors for future years, that information may be replaced if you generate seasonality history (FOR940) and update the seasonality factors (FOR950) at some later date.

Access: Menu FOR01

Create or specify forecast combination

Specify the item group/customer group/year combination to create, revise, delete or reactive with Seasonality History Maintenance, FOR160D1-01.

Field descriptions - FOR160D1-01

Fields	Description
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to blank. To process high level forecasting, type the hierarchy level to identify the item group.
Item Group (35,A):	If the hierarchy level is equal to blank, type the item number for the seasonality history to be maintained. If the hierarchy level is not equal to blank, type a valid item group. The list displayed is directly related to the item group hierarchy level selected. All changes made from this program affect the data only for the specified item group/customer group combination, or the specified item/warehouse combination.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to blank. To process high level forecasting, type the hierarchy level to identify the customer group.
Customer Group (8,A):	If the hierarchy level is equal to blank, type the warehouse code for the seasonality history to be maintained. If the hierarchy level is not equal to blank, enter a valid customer group. The list displayed is directly related to the customer group hierarchy level selected. All changes made from this program affect the data only for the specified item group/customer group combination, or the specified item/warehouse combination.

Item (35,A):	Specify the item number for the seasonality history to maintain. All changes made through this program affect the seasonality data for the specified item and warehouse only.
Warehouse (3,A):	Specify the warehouse code for the seasonality history to maintain. Use this code to change seasonality data for each warehouse used by the item. This is helpful because seasonality patterns can vary for each warehouse, as well as for each item.
Year (2,0):	Specify the desired year for the seasonality history to maintain.

Screen actions - FOR160D1-01

Commands	Description
F9=Create	Create new seasonality factors for each period for the item group/customer group/year combination.
F10=Revise	Revise the seasonality factors for each period for the item group/customer group/year combination.
F21=Delete	Make inactive the seasonality factors for the item group/customer group/year combination.
F22=Reactivate	Reactivate previously deleted seasonality factors for the item group/customer group/year combination.
	All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Specify seasonality factor

Use the Seasonality History Maintenance screen, FOR160D2-01, to specify the seasonality factor for each period for the item group/customer group/year combination you specified on the previous screen.

Field descriptions - FOR160D2-01

Fields	Description
Seasonality Factor (5,4):	Specify the seasonality factor for each forecast period. If you enter whole-number seasonality factors, you do not need to enter a decimal point. You must specify the decimal point if you enter decimal digits.

Seasonality factors must be greater than 0. You cannot use negative seasonality factors because they produce negative values, which is a case that is not realistic for basis or forecast demand. Similarly, seasonality factors cannot equal 0 because the system could not de-seasonalize basis demand by 0.

You can assign this table to the item group/customer group or to the item class/warehouse level forecast data. Use the Item/Warehouse Data program (FOR170) or the Item Class/Warehouse Overrides program (FOR140) to assign the table to the appropriate data levels. Keep in mind that item class/warehouse overrides are used only if the system creates new records in the Item/Warehouse data and does not affect existing records (that is, only where item/warehouse data is not specified).

Infor LX can then use these factors in the Forecasting Inquiry (FOR300), the Modeling (FOR500), or the Forecast Generation (FOR510) programs; however, you can use different table numbers only if you made the appropriate entries to the Seasonality Used field from the Application Control program (FOR100). The valid entries to the Seasonality Used field are listed below.

N

00 is only valid table number (no seasonality)

Y

Use any valid seasonality table

H

Use history (SH) or any valid table number

Infor LX uses seasonality factors to de-seasonalize basis demand values prior to using them in forecasting calculations and to "seasonalize" computed forecast approximation values to adjust for predictable period-to-period fluctuations. This means that the system uses these factors to apply corrections to either the demand values to eliminate compounding seasonal fluctuations through the forecasting calculations or to adjust computed forecast values to include predictable variations.

The system performs these adjustments by either dividing a basis demand value for a given period by the seasonality factor for that period or by multiplying a computed forecast value by the appropriate factor. Therefore, to reduce the value of a particular basis value and to adjust the final forecast value upward, the seasonality factor for the period should be greater than 1.0000. Conversely, to increase the value of a basis value prior to using it to compute a forecast value and to decrease the final forecast value because you anticipate a slightly lower than average demand for a period, the seasonality factor for that period should be less than 1.0000. Of course, if the demand for a period is typically average, the seasonality factor should be 1.0000.

Finally, the concept of seasonality is to apply minor corrections to a period value that normally deviates from what you would expect for an average period to bring it more in to line with the average value. You can think of the average as being the individual basis values or the forecast values. Since the sum of individual average values always equals the end total, it makes sense that if you adjust either the basis or forecast value upward for a given period, for example, you must reasonably expect to adjust a similar value for some other period downward. In fact the total upward adjustments should equal exactly the total downward adjustments for the planning year, and vice versa. Therefore, the sum total of the individual seasonality factors should equal the number of periods you established for the planning year through the Application Control program, FOR100.

Screen actions - FOR160D2-01

Commands	Description
All screen actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Seasonality history listing, FOR165D

This program prints a listing of the seasonality data that you created in the Seasonality History program (FOR160).

Access: Menu FOR01

Specify report

Specify what information to include in the Seasonality History listing on the Seasonality History screen, FOR165D-01.

Field descriptions - FOR165D-01

Fields	Description
From Item Class (5,A):	Specify the lower and upper item class to designate the range for which to print the seasonality history listing. If the product and customer group hierarchy

levels are not equal to zero, the lower class must be blank and the upper class must be all nines.

To Item Class (5,A): Specify the lower and upper item class to designate the range for which to print the seasonality history listing. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.

Item Group Hierarchy Level (2,0): To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the item group.

Lower Item Group (35,A): Specify the lower and upper item group to designate the range for which to print the seasonality history listing.

Upper Item Group (35,A): Specify the lower and upper item group to designate the range for which to print the seasonality history listing.

Customer Group Hierarchy Level (2,0): To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the customer group.

Lower Customer Group (8,A): Specify the lower and upper customer groups to designate the range for which to print the seasonality history listing.

Upper Customer Group (8,A): Specify the lower and upper customer groups to designate the range for which to print the seasonality history listing.

Lower Year (2,0): The date range defaults to the lower and upper century dates as defined in SYS820D - Company Name and Date Format. The lower value of the range is 19XX, where XX is the century date year. The upper value of the range is 19XX plus 99 years. If the century date year is 50, the lower value will be 1950 and display as 50, and the upper value will be 2049 and display as 49. Dates entered into the Lower Year default to 19XX if greater than or equal to the century date year, and default to 20XX if less than the century date year.

Upper Year (2,0): The date range defaults to the lower and upper century dates as defined in SYS820D - Company Name and Date Format. The lower value of the range is 19XX, where XX is the century date year. The upper value of the range is 19XX plus 99 years. If the century date year is 50, the lower value will be 1950 and display as 50, and the upper value will be 2049 and display as 49. Dates entered into the Upper Year default to 19XX if greater than or equal to the century date year, and default to 20XX if less than the century date year.

Run Time Parameter (1,0): Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR165D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Item warehouse data, FOR170B1

Use this program to adjust all maintainable forecasting data at the item group/customer group level. Initially, most of the parameter data is set up in the Item Class/Warehouse Overrides program (FOR140). Use the Item Warehouse Data program (FOR170) to specify the item class data for individual item and warehouse combinations. You can access this program from two different menus, and which action the program performs is determined by the menu from which it is launched.

If you select the Item Warehouse Data program (FOR170) from the Forecasting Maintenance Menu (FOR01), the program lets you maintain data for any valid item group/customer group combination. However, if you select the Item Warehouse Data program (FOR170) from the Forecast Simulation menu (FOR02), the program can only update Simulation file data. If you select the FOR170 program from the simulation menu, you can add, maintain, or remove item/warehouse data for any valid item group/customer group, but these changes apply only to the active simulation model. Only one simulation model can be active at any one time. The active model is determined by the filename last specified from the Simulation Selection program (FOR600).

Though this program functions similarly from both menus, there are differences in the ways the system allows you to update some of the data that is available from this program. Because the actual forecast data can be updated by a variety of methods, these instructions are written primarily for the Item Warehouse Data program (FOR170) that is available from the Forecasting Maintenance menu (FOR01). The procedural differences for maintaining this data on the two separate files are noted. However, be aware that if you access the Item Warehouse Data program (FOR170) from the Forecast Simulation menu (FOR02), the data is stored in the appropriate Simulation model within the Forecasting file (JFC/JFI).

WARNING:

If: the Forecast/SPM relationship is set to 2, and you use an external forecasting product to move demand (STMOVSLS DEMAND*) or move forecasts (STMOVSLS *FCST) to Infor LX, and the parameter to replace existing data is set to 1,

Then:

SPM clears the JFI data within the date and period range for all JFI records prior to adding data from SPM. If STMOVSLS Replace existing data is set to 0, then data from SPM is added to the existing data in the same year and periods in JFI.

The Item Warehouse Data program (FOR170) lets you adjust the default item/warehouse data for individual item group/customer group combinations and also adjust the demand, forecast, and forecast

history data for all maintainable periods for this item group/customer group item and warehouse. Maintainable Demand and Forecast History periods are specified in the Forecast Periods program, FOR120. Forecast periods are always maintainable through FOR170.

If you adjust the item/warehouse demand or forecast history data using this program, remember that you are adjusting the demand values in the Forecasting file, JFC/JFI. These have already been retrieved from the raw basis data in the Basis file (JFB) and loaded into discrete, time-phased buckets from either of two programs (FOR020 or FOR930). The Item Warehouse Data from Basis program (FOR020) initializes the Basis file when the system is implemented. The Load Item/Warehouse from Basis program (FOR930) updates the Forecasting file with new data from the Basis file for the current period. Both of these programs can affect the bucketed values in the Forecasting file. In both cases, the raw basis data in the Basis file may override adjustments that have been made from the Item Warehouse Overrides program, FOR140.

If you are going to update the bucketed basis values using program FOR020, and you want to make permanent adjustments, you should use the Forecast Basis program (FOR150) to make those adjustments directly to the raw basis data so they are retained after you initialize the bucketed basis values. Once the system has been initialized, you need to update forecast data:

If you are updating current forecast period basis data, make the changes in FOR150, then use program FOR930 (Load Item/Warehouse From Basis) to update the JFC/JFI files.

Or

If you are updating previous forecast period basis data, use FOR170 to update the JFC/JFI files. For information purposes, you can then use FOR150 to adjust the basis data file.

Regardless of the program you use to make the basis value adjustments, Infor LX always retains the original basis values in their raw form on the Forecast Basis file (JFB).

The following equation is used to calculate a trend line:

Access: Menu FOR01

Menu FOR02

Equation to Calculate the Trend Line

The equation used to calculate the trend line is the least squares statistical algorithm. This algorithm generates a straight line through the data points (one to eight years of forecast history), one demand point per historical demand period, such that the distance between each data point and the trend line is minimized. The equation measures the distance from the data point to the line (the deviation), squares this distance (squared deviation), and adds the squares of all the deviations. After the sum of these squared deviations is minimized, the resulting trend line is considered "best fit."

Equation to Calculate the Outliers

Once the trend line is determined using the Least Squares statistical algorithm, the equation used to calculate outliers, sums all the (absolute) deviations, then divides by the number of deviations to compute the average deviation. It then sets an upper limit as - the trend line value, plus the average, plus the

average deviation times (1 plus the Irregularity Smoothing Percent), and the lower limit as the trend line value, minus the average deviation times (1 plus the Irregularity Smoothing Percent). Demand values that qualify as outliers as reassigned to the value of the upper limit (positive outliers), or to the value of the lower limit (negative outliers).

Note: If the Irregularity Smoothing Percent is blank, the outlier calculation is bypassed and all values are used to determine the forecast values.

The Irregularity Smoothing Percent Default is defined in FOR140 for Item Class and Warehouse (for Item/Warehouse level forecasting, only, and with overrides at the Item/Warehouse level for FOR170 - if forecasting at the Item/Warehouse level, or overrides at the Item Group/Customer Group level in FOR170 if forecasting at the Item/Customer Group level.

Years to use for forecast history (1-8) is a parameter that is set in FOR100 - Forecasting Parameter Maintenance.

Add or specify combination

Use the Item Warehouse Data screen, FOR170D1-01, to create new item warehouse combination or to specify existing data to modify, copy, view, delete or print.

Field descriptions - FOR170D1-01

Fields	Description
Act (2,A):	Specify the number for the line action to perform and press Enter. To use the first line, specify the line action and at least one key field value.
(Item Group Hierarchy Level) Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the item group. The Sales Performance Management product must be installed for Infor LX to accept values other than zero.
Item Group (35,A):	If the product hierarchy is equal to zero, type the item number for the item/warehouse combination you want to maintain. If the product hierarchy is not equal to zero, type a valid item group. The Sales Performance Management product must be installed for Infor LX to accept values other than zero. The list displayed is directly related to the item group hierarchy level selected. All changes made through this program affect the data for the specified item group/customer group combination or item/warehouse combination only.
(Customer Group Hierarchy Level) Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the customer group. The Sales Performance Management product must be installed for Infor LX to accept values other than zero.

Cust Group (8,A):   If the hierarchy level is equal to zero, enter the warehouse code for the item/warehouse combination to be maintained. If the hierarchy level is not equal to zero, enter a valid customer group. The Sales Performance Management product must be installed for Infor LX to accept values other than zero. The list displayed is directly related to the customer group hierarchy level selected. All changes made from this program affect the data for the specified item group/customer group combination or item/warehouse combination only.

Warehouses can be used to store any item. The code in this field allows you to define different forecasting data for each different warehouse since demand characteristics typically vary for each different item and each different location.

Status   The Status field displays whether the item warehouse data has an active or inactive status.

Screen actions - FOR170D1-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Specify forecasting data

Use the Item Warehouse Data screen FOR170D1-02 to specify the item warehouse data information.

Field descriptions - FOR170D1-02

Fields	Description
Forecast Base (1,A):	Use D (Demand), F (Forecast) or O (Orders) to specify the type of data that to generate forecasts for the specified item/warehouse combination.
	D
	Default. Infor LX uses all B-type transactions from Transaction History file (ITH) to generate the forecasts.
	O
	Infor LX uses the order data from the Order Detail file (ECL).
	F

Infor LX uses the forecast values from the MPS/MRP Forecasting file (KMR).

The raw data can be loaded into period bucket totals by any of the initialization procedures described early in the System Flow section. However, you can accumulate the bucket totals at the end of each period by executing the appropriate Update program (FOR910, FOR915, or FOR920) followed by the Load Item/Warehouse from Basis program (FOR930).

After the data is transferred, you can manually maintain it through the Item Warehouse Data program (FOR170); however, you can adjust the forecast data before updating the bucket values with the Forecast Basis program (FOR150). Refer to the individual instructions for these programs for complete operating information.

Deviation Measurement Method (1,0): Specify a user-defined error method code to identify the type of error calculation you want the system to use for this item group/customer group. The standard error techniques are represented by their respective method codes as follows:

Error Method Code	1
Long Error Type Name	Mean Absolute Deviation
Name Abbreviation	MAD
Subroutine	MAD

Error Method Code	2
Long Error Type Name	Mean Absolute % Deviation
Name Abbreviation	MAPE
Subroutine	MAPE

Error Method Code	3
Long Error Type Name	Mean Squared Error
Name Abbreviation	MSE
Subroutine	MSE

Infor LX uses the specified method to measure the respective error values during forecast modeling (FOR500). The error values provided by the Forecast Analysis program (FOR230) are also computed by using this error method. The default error method is 1 unless you changed it in the Item Class/Ware-

house Overrides program (FOR140). You can adjust this initial entry by entering the desired value directly over the default entry.

Forecast Flag (1,A):

Specify an M if you want Infor LX to perform forecast modeling for the specified item group/customer group combination shown at the top of the screen.

If you do not want Infor LX to perform forecast modeling, enter any valid forecasting type code to use for the specified item and warehouse. The standard forecasting type codes are listed under the Forecasting Methods Array field descriptions, which follows. You can also enter any code for which you defined a method through the Methods and Errors program (FOR110).

This entry determines whether the system can perform forecast modeling for the specified item and warehouse combination. Forecast modeling is the process of comparing the respective average error between the values forecasted by two or more methods and the actual basis values within a given modeling period to determine which method produces the best approximation. Forecast modeling occurs if you execute the Modeling program, FOR500, but it occurs for a particular item and warehouse only if you enter an M into the Forecast Flag field, which displays here.

You determine both the error method and the forecasting techniques that Infor LX should use for an item group/customer group combination during modeling. The values you establish in this program override the values you established in the Item Class/Warehouse Overrides Maintenance program, FOR140, for the associated item class/warehouse combination.

Forecasting Methods Array (5,0):

Use up to five forecasting type codes to specify the techniques that the Modeling program (FOR500) uses to perform modeling for this item class and warehouse combination.

The standard forecasting method codes are listed below; however you can specify any forecasting technique that you defined through the Methods and Errors program, FOR110. The list includes the minimum number of periods for calculation and review for each forecasting method code.

Method Code	1
Description	Exponential Smoothing
Subroutine	EXPON

Min. Calculation	16 Periods
Min. Review	16 Periods

Method Code	2
Description	Least Squares
Subroutine	LEAST
Min. Calculation	16 Periods
Min. Review	16 Periods

Method Code	3
Description	New Equals Old
Subroutine	NWOLD
Min. Calculation	13 Periods
Min. Review	13 Periods

Method Code	4
Description	Seasonality & Trend
Subroutine	SEATR
Min. Calculation	16 Periods
Min. Review	16 Periods

Method Code	5
Description	Aver. Change & Seasonality
Subroutine	AVCHG
Min. Calculation	26 Periods
Min. Review	26 Periods

The default entry for this field is 12345. This entry indicates that if the system performs forecast modeling for a given item group/customer group, it uses the five standard forecasting techniques. You can override this entry by entering in the desired type codes directly over the initial value. For example, to use only methods 1, 3 and 4, type 134 in this field.

Do not leave blanks between the code numbers. If two or more methods produce an equally accurate forecast, the system uses the order of these numbers to determine which method to use. The order of preference decreases from left to right.

If this is left blank, the system does not perform modeling or generate forecasts for this item class and warehouse combination.

Seasonal Item Control Code (2,A):

Specify a number between 00 and 99, or the characters SH. These entries indicate the seasonality data that Infor LX should use to forecast calculations that use seasonality factors (that is, Holt-Winters, Seasonality and Trend, and Average Change and Seasonality). The valid entries for this field depend on the entry you made to the Seasonality Used field in the Application Control program, FOR100. The acceptable entries for the Seasonality Used field are listed below along with the associated valid entries for the Seasonal Item Control Code field:

Seasonality Used field, FOR100, and the resulting valid entries to Seasonal Item Control Code, FOR140:

Y = Table numbers 00 through 99

N = Table number 00

H = Table numbers 00 through 99 or SH

The numbers 00 through 99 represent tables of seasonality values. You create all of these tables except 00 through the Seasonality Factors program, FOR130. The 00 table is the standard table used by the system to compute forecasts without seasonal variation. It can also be maintained through program FOR130. The seasonality factor for each of its periods is 1.0000, so each period is weighed equally throughout all forecast calculations. If your system uses less than 13 periods per year, you need to adjust the 00 table to contain only the number of seasonality factors needed.

SH is the seasonality code that instructs Infor LX to use the actual seasonality values from the Seasonality History file, JFH, that were generated by the Year End Seasonality Factors program, FOR950. These values are computed from the previous year basis values.

The default value for this field is 00 or SH, depending on the entry you made to the Seasonality Used field from the Application Control program (FOR100). You can override this value by entering the desired entry directly over the default value.

Forecasts per Period for MRP (2,0):

The MRP forecast file (KMR) can define periods at a lower level than Infor LX Forecasting, for example weeks in MRP vs. months in Forecasting. This field contains the number of MRP periods (1-99) per Forecasting period. This number is used to subdivide each Forecasting period into smaller units to be loaded to the MPS/MRP Forecasting file (KMR) through the Load Forecast to MPS/MRP program (FOR540). Although you can divide each forecasting period into as many as 99 sub-periods, no sub-period can be less than a day. If you specify more periods per forecast than there are days in the periods, the system creates only as many sub-periods as there are days in the periods.

Sub-periods cannot contain any fractional days. If the number of days in each of the sub-periods is unequal, the system divides the period so that only the last period contains an odd number of days. The default value for this field is 1.

Alpha Smoothing for Average (5,4):

Specify the values for the exponential smoothing factors that are to be used throughout the system as the item group/customer group default smoothing factors. Refer to the System Functions section for a conceptual description about exponential smoothing.

Alpha Smoothing for Error (5,4):

Specify the values for the exponential smoothing factors that are to be used throughout the system as the item group/customer group default smoothing factors. Refer to the System Functions section for a conceptual description about exponential smoothing.

Alpha Smoothing for Seasonality (5,4):

Specify the values for the exponential smoothing factors that are to be used throughout the system as the item group/customer group default smoothing factors. Refer to the System Functions section for a conceptual description about exponential smoothing.

Alpha Smoothing for Trend (5,4):

Specify the values for the exponential smoothing factors that are to be used throughout the system as the item group/customer group default smoothing factors. Refer to the System Functions section for a conceptual description about exponential smoothing. Briefly, exponential smoothing is a method of averaging data from the current period with data from past periods. The higher the smoothing factor, the more mathematical weight is assigned to the current period value.

Infor LX uses each of these smoothing factors in a similar manner, but for different applications. These applications are listed below:

Smoothing Factor Name Applications:

Average

Where Used - Holt-Winters, Seasonality Year End

Error

Where Used - Tracking signal calculation and report

Seasonality

Where Used - Holt-Winters, Seasonality Year End

Trend

Where Used - Holt-Winters, Seasonality and Trend, Seasonality Year End

Exponential smoothing factors can range from 0.0001 to 0.9999. However, as a matter of practical consideration, exponential smoothing factors that are

lower than 0.1 or 0.2 do not assign enough significance to the latest historical data. On the other hand, the value of the smoothing factor should not exceed 0.4 since this assigns too much significance to recent data. Generally, the smoothing factors should range between 0.15 and 0.4, but you can use this rule of thumb: The smoothing factor should be greater than the reciprocal of the number of intermediate periods of history used for the forecast, as follows:

Smoothing Factor > 1/(number of periods of history used):

This logic does not apply during system implementation since there is very little data to begin with. As a result, only recent history data is available for calculations so the default value for all smoothing factors is 0.9000. You can override these values if more data becomes available. The values established in this program are used as default values for all item group/customer group combinations for which forecasts are being generated for the first time. They can be changed for individual item group/customer group combinations through the Item Warehouse Data program (FOR170).

Long Cycle Factor (5,4): Specify a value between 0 and 9.9999 to set the value of the long cycle factor. Infor LX uses this value as an adjustment factor for the final forecast values. Set this value to apply slight upward or downward adjustments to the forecast across the board. Long Cycle Factors that are less than 1.0000 adjust the forecast downward. Long Cycle Factors that are greater than 1.0000 adjust all computed forecast values upward. Since the system uses this value as a simple multiplier, 1.0000 represents a neutral factor.

Infor LX uses this long term factor in the Modeling (FOR500), Generation (FOR510), and Inquiry (FOR300) programs. The default Long Term Cycle factor is 1.0000, but you can override this entry.

Irregularity Smoothing Percent (3,1): Specify a percentage value that indicates the degree to which the system allows basis values to vary from the computed level of trend for any given period. Infor LX replaces abnormally high or low basis values with the respective highest or lowest acceptable values for all forecasting calculations. These values are calculated by first applying the irregularity smoothing percentage to the level of trend and then adding and subtracting, respectively, the resulting value from the level of trend.

By replacing these outlying values, Infor LX eliminates abnormal spikes in demand, which could skew the final forecast results. You can view the outlying values for all basis data stored in the Forecasting file by printing the Outliers Report, FOR260.

Though Infor LX eliminates the outlying basis values from all forecasting calculations, it does not alter the actual value of the basis value, which is stored permanently in the appropriate item/warehouse record of the Forecasting file (JFC/JFI). All basis values that are within the specified percentage range of

the level of trend for a given period are used as normal. There is no default value for this field. The field is initially blank to indicate that the system does not apply a smoothing percent for this item class and warehouse combination.

Screen actions - FOR170D1-02

Commands	Description
Enter	Update the data for the specified item group/customer group with any new entries made to this screen. If all entries are valid, Infor LX updates the appropriate records in the Forecasting file (JFC and JFI) and returns to the previous screen
F14=Actual Years 1 - 2	Update or view the actual forecast values, the demand values, or the forecast history values that are stored on the Forecasting file (JFC/JFI) for either the current or previous year. The system displays an input screen (FOR170D2-01) containing the appropriate values. If you made changes to the data on the Item Warehouse Data screen that you want to retain, you must press Enter before pressing F14=Actual Years 1 -2. Otherwise, the changes are not stored.
	If you are using forecasting history as your basis values, the demand value columns contain shipment data by default.
F15=Demand Years 3 - 8	Update or view the demand values for the past three through eight years. This processing option is available only if your system has at least three years of demand history stored on the Forecasting file (JFC/JFI).
	If you made changes to the data on the Item Warehouse Data screen that you want to retain, you must press Enter before pressing F15=Demand Years 3 -8. Otherwise, those changes are not stored. The system displays an input screen (FOR170D2-02) containing the available demand data. If you are using forecasting history as your basis values, these demand value columns contain shipment data by default.
F16=For Hist Years 3 - 8	Update or view forecasting history data for the past three through eight years. This processing option is available only if your system has at least three years of forecasting history on the Forecasting file (JFC/JFI).
	If you made changes to the data on the Item Warehouse Data screen that you want to save, you must press Enter before pressing F16=For Hist Years 3 - 8. Infor LX then displays an input screen (FOR170D2-03) containing the available data.

All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Item-whse data maint - actual years 1-2, FOR170D2

Infor LX displays the actual demand values for the current and previous years and the forecast values for the current and next years.

Use the Forecast Application Control screen, FOR100D-01, to define the Item Group Name and the Customer Group Name shown in the header information on this screen.

If product and customer hierarchy levels are blank, the parameter fields are for Item and Warehouse.

Access: Use F14 from FOR170D1-02, FOR170D2-02 or FOR170D2-03

View or specify actual years 1-2

Use Item Warehouse Data Maintenance screen FOR170D2-01 to view or specify actual demand values for the current and previous years and the forecast values for the current and next years.

Field descriptions - FOR170D2-01

Fields	Description
Item (user defined):	Infor LX displays the item group hierarchy and value within the level that you specified on the selection screen.
Customer Group:	Infor LX displays the customer group hierarchy and value within the level that you specified on the selection screen
Current Year:	Infor LX displays the last two digits of the current year.
Period:	Infor LX displays a list of each period in a forecast or demand year, starting with the current period.
Current Yr Demand:	Infor LX displays the actual demand of the specified item/warehouse (Item Group/Customer Group) combination for the current period and the 11 previous periods.
Current Yr For Hist:	Infor LX displays the forecast history for the specified item/warehouse/(Item Group/Customer Group) combination for the current period and the 11 previous periods.

Current Yr Forecast: Infor LX displays the calculated forecast of the specified item/warehouse/(Item Group/Customer Group) combination for the period after the current period and the next 11 periods.

Last Yr Demand: Infor LX displays the actual demand of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the previous year.

Last Yr For Hist: Infor LX displays the forecast history for the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the previous year.

Next Yr Forecast: Infor LX displays the calculated forecast of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods for the next year.

Screen actions - FOR170D2-01

Commands	Description
F11=Fold	Fold the screen to display additional fields. The screen displays the following additional fields: Last Yr Demand Last Yr For Hist Next Yr Forecast
F15= Demand Years 3 - 8	Display the demand data for years three through eight.
F16=For Hist Years 3 - 8	Display the forecast history data for years three through eight.
F20=Switch	Switch to data for the previous year's demand and forecast history and the next year's forecast. All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

View or specify demand years 3-8

Infor LX displays the actual demand values for the previous three to eight years on this screen.

Use Item Warehouse Maintenance screen FOR170D2-02 to view or specify information for the item group and the customer group you chose on the previous screen.

Use the Forecast Application Control screen, FOR100D-01, to define the Item Group Name and the Customer Group Name shown in the header information on this screen.

If product and customer hierarchy levels are blank, the parameter fields are for Item and Warehouse.

Access: Use F15=Demand Years 3-8 from FOR170D1-02, FOR170D2-01 or FOR170D2-03

Field descriptions - FOR170D2-02

Fields	Description
Item Group Hierarchy (user defined):	Infor LX displays the item group hierarchy and value within the level that you specified on the selection screen.
Customer Group Hierarchy (user defined):	Infor LX displays the customer group hierarchy and value within the level that you specified on the selection screen.
Current Year:	Infor LX displays the last two digits of the current year.
Period:	Infor LX displays a list of each period in an historical year, starting with the current period for that year.
Year N Demand:	Infor LX displays the actual demand of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the nth year prior to the current year.
Year N Demand:	Infor LX displays the actual demand of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the nth year prior to the current year.
Year N Demand:	Infor LX displays the actual demand of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the nth year prior to the current year.
Year N Demand:	Infor LX displays the actual demand of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the nth year prior to the current year.

Year N Demand:	Infor LX displays the actual demand of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the nth year prior to the current year.
Year N Demand:	Infor LX displays the actual demand of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the nth year prior to the current year.

Screen actions - FOR170D2-02

Commands	Description
F14= Actual Years 1 - 2	Display the actual forecast values, the demand values, or the forecast history values for either the current or previous year.
F16= For Hist Years 3 - 8	Display the forecast history data for years three through eight.
	All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

View or specify history years 3-8

Infor LX displays the forecast history values for the previous three to eight years on this screen.

Use the Forecast Application Control screen, FOR100D-01, to define the Item Group Name and the Customer Group Name shown in the header information on this screen.

If product and customer hierarchy levels are blank, the parameter fields are for Item and Warehouse.

Access: Press F16 from FOR170D1-02, FOR170D2-01, or FOR170D2-02

Field descriptions - FOR170D2-03

Fields	Description
Item Group Hierarchy (user defined):	Infor LX displays the item group hierarchy and value with the level that you specified on the selection screen.
Customer:	Infor LX displays the customer group hierarchy and value with the level that you specified on the selection screen.
Current Year:	Infor LX displays the last two digits of the current year.

Period: Infor LX displays a list of each period in a forecast year, starting with the current period for that year.

Year N For Hist: Infor LX displays the forecast history of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the nth year prior to the current year.

Year N For Hist: Infor LX displays the forecast history of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the nth year prior to the current year.

Year N For Hist: Infor LX displays the forecast history of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the nth year prior to the current year.

Year N For Hist: Infor LX displays the forecast history of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the nth year prior to the current year.

Year N For Hist: Infor LX displays the forecast history of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the nth year prior to the current year.

Year N For Hist: Infor LX displays the forecast history of the specified item/warehouse/(Item Group/Customer Group) combination for the corresponding periods during the nth year prior to the current year.

Screen actions - FOR170D2-03

Commands	Description
F14= Actual Years 1 - 2	Display the actual forecast values, the demand values, or the forecast history values for either the current or previous year.
F15= Demand Years 3 - 8	Display the demand data for years 3 through 8.
	All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Item warehouse data listing, FOR175D

This program prints a copy of the item/warehouse override data that you created or maintained in the Item/Warehouse Data program (FOR170).

This program is available from both the Forecast Maintenance menu (FOR01) and the Forecast Simulation Menu (FOR02).

If you access this program from the Maintenance menu (FOR01), the listing includes the Item Warehouse data for all valid item group/customer group combinations for which forecasts have been generated. If you access this program from the Simulation menu (FOR02), the listing includes the Item Warehouse data for all valid sets of simulation data stored in the simulation model that is currently active at your workstation.

Access: Menu FOR01, Menu FOR02

Specify report

Use Item warehouse Data List FOR175D to specify what item warehouse data to print, and how much of the data to include.

Field descriptions - FOR175D-01

Fields	Description
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the item group.
Lower Item Group (35,A):	Specify the lower and upper item groups to designate the range for which to print the item/warehouse data.
Upper Item Group (35,A):	Specify the lower and upper item groups to designate the range for which to print the item/warehouse data.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the customer group.
Lower Customer Group (8,A):	Specify the lower and upper customer groups to designate the range for which to print the item/warehouse data.
Upper Customer Group (8,A):	Specify the lower and upper customer groups to designate the range for which to print the item/warehouse data.

Print Parms (1,A):   Accept the default entry Y to print the parameters for the selected Item Groups/ Customer Groups on the printed listing. Specify N if you do not want to include the parameters on this listing.

Print Forecast (1,A):   Accept the default entry Yes to print the forecasts for each item group/customer group in the groups that you selected. Specify N if you do not want to include the forecast data on this listing.

Print History (1,A):   Accept the default entry Y to print the forecast and demand history for each item group/customer group in the selected item group/customer group. Specify N if you do not want to include the forecast history on this listing.

Run Time Parameter (1,0):   Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR175D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Simulation security codes, FOR180D1

If you set up your system to use simulation security codes when you set the forecasting parameters through the Application Control Program (FOR100), you must use the Simulation Security Codes program (FOR180) to define at least one code. Security codes are stored on the System Parameter file (ZPA).

You can define as many security codes as necessary to control which users can copy a set of simulation data to the Forecasting file. Users must enter a valid code if they are using the Copy Simulation to Forecast program (FOR620) before the system copies a set of forecast simulation data.

Access: Menu FOR01

Add or specify security codes

Use the Simulation Security Codes screen FOR180D1-01 to create a new simulation security code or to specify an existing one to revise, copy, delete or display.

Field descriptions - FOR180D1-01

Fields	Description
Act (2,A):	Specify the number for the line action to perform and press Enter. To use the first line, specify the line action and at least one key field value.
Line actions	All line actions on this screen perform standard Infor LX functions. See *Generic help text for line actions (p. 17)* in the overview information in this document.
Security code (4,A):	Specify a user-defined security code. The system shows the code on the screen if you are in display mode, and it does not show it in non-display mode. You can change the mode by using Processing Option F13.
	If you specify a valid code in the Copy Simulation to Forecast program FOR620, you can transfer a specified set of simulation data to the Forecasting file.

Screen actions - FOR180D1-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Specify authorized person

Use the Security Code Maintenance screen FOR180D2-01 to specify the name of the person authorized to use the security code.

Field descriptions - FOR180D2-01

Fields	Description
Name of Authorized Person (20,A):	Specify the name of the person authorized to use the simulation security code. The entry is not used for any processing. Simulation security codes are not logically connected to any user identification code or sign-on password; anyone may enter a valid simulation security code to transfer simulation data. There-

fore, it is important for you to establish simulation code security and to handle these codes confidentially.

Screen actions - FOR180D2-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Simulation security codes listing, FOR185D

This program prints a list of all the simulation security codes and their related "authorized" users' names set up in the Simulation Security Codes program (FOR180).

Access: Menu FOR01

Specify report

Specify whether to run the security codes report program in batch or interactive mode.

Field descriptions - FOR185D1-01

Fields	Description
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR185D1-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Forecast basis, FOR010D

This program initializes the Basis file (JFB) with both demand and forecast values from sales, orders, and previous forecast values. Use this program if history comes from Infor LX files, not from an external forecasting product.

If you use history from an external forecasting product to load the Infor LX forecast file (JFI), basis data from JFB is not required.

Infor LX retrieves the sales data from the Transaction History file (ITH), the order data from the Order Detail file (ECL) and the Forecast data from the MPS/MRP Forecast file (KMR). After collecting this information, you can adjust the Basis file data by using the Forecast Basis program (FOR150).

The Forecast Basis from Sales program (FOR010) is normally used to initialize the data fields on the Basis file when you first install your system. Once you have information in those fields, you can update the Basis file regularly with new period ending values from the respective data files by using the respective update programs (FOR910, FOR915 and FOR920).

The Basis file information is not the actual data used for the forecasting calculations, but rather the raw data which is collected into period totals (buckets) and transferred to the Forecasting file (JFC/JFI) through either the Item Warehouse Data from Basis program (FOR020) or the Load Item Warehouse from Basis program (FOR930). If you are just setting up your system, use the Item Warehouse Data from Basis program (FOR020) to initialize the Forecasting file with the new basis data. To perform a routine update of the Forecasting file with new Basis file (JFB) data, use the Load Item Warehouse from Basis program (FOR930).

FOR010 loads ALL history data, using the basis code as set up in the various item/warehouse and item/class/warehouse combinations. The program uses a default if the combination you specify is not

found. FOR020 refines the information you have gathered from FOR010 and sets up the forecasting file.

Note: If the Distribution Resource Planning product is installed, a Forecasting system parameter set through the Forecasting Application Control program (FOR100) determines whether resupply orders are included in the basis totals. Resupply orders are created through the Generate Resupply Orders program, DRP541.

Access: Menu FOR01

Specify warehouse to initialize

Specify which warehouse's Basis file (JFB) to initialize.

Field descriptions - FOR010D-01

Fields	Description
Warehouse (3,A or blank):	Specify the code of the warehouse for which you want to initialize the Basis file (JFB), or leave this field blank to initialize all warehouses at the same time.
	Infor LX collects all available shipment, order and forecast data from the appropriate files only for the warehouses specified and copies that data to the Basis file. The data is copied for all historical periods through the current period. The system displays the current period month and year on this screen. You initially set this value in the Application Control program (FOR100).
	If you execute this program, all previous data in the Basis file is replaced by the new data from the system files, but only for the specified warehouses. If you previously adjusted this Basis file data by using the Forecast Basis program (FOR150), those changes are not retained.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR010D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Forecast basis, FOR150D1

This program allows you to manually adjust the basis values for any period in the planning year for specific item and warehouse code combinations. These values result from the actual period sales totals from the Transaction History file (ITH), the actual period order totals from the Order Detail file (ECL), or the old forecast values from the MPS/MRP Forecasting file (KMR).

The data is collected from these separate files by separate update programs (FOR910, FOR915 and FOR920), grouped into the appropriate period bucket totals, and stored in the Forecast Basis file (JFB). This program (FOR150) lets you adjust the basis information before it is transferred to the Forecasting file (JFC/JFI) for use in generating your forecasts.

If you make manual adjustments, the system records your adjusted values in separate files so the original values are retained, even though they are not used. Before you use the adjusted values for forecasting calculations, they must be transferred to the Forecasting file (JFC and JFI) by using the Load Item/Whse from Basis program (FOR930) or from the Forecast from Forecast Basis program (FOR020). Both of these programs transfer basis data to the Forecasting file, but the FOR020 program is usually used only to initialize the Forecasting file, while the FOR930 program is used to update the Forecasting file with new data at the end of a period.

Access: Menu FOR01

Add or specify date

Create or specify the item, warehouse, and date combination to maintain.

Field descriptions - FOR150D1-01

Fields	Description
Act (2,0):	Specify the number for the line action to perform and press Enter. To use the first line, specify the line action and at least one key field value.

All line actions on this screen perform standard Infor LX functions. See *Generic help text for line actions (p. 17)* in the overview information in this document.

Item Number (35,A): Specify the item number for the basis data you want to maintain. Valid items are defined through IDF Enterprise Item.

Warehouse (3,A): Specify the warehouse code for the basis data you want to maintain. Warehouse codes are defined through the Warehouse Master Maintenance program (INV110) and can be used to store any item. The code here allows you to define different forecasting basis data for each different warehouse since demand characteristics typically vary for different items and locations.

Date (6,0): Specify the date for the basis data that you want to adjust. Infor LX uses this date to determine which period of basis data you want to change based on the period date ranges you established for the specified item and warehouse through the Forecasting Periods program, FOR120. If you leave the date field blank, the system displays all records.

Values are grouped into period buckets when they are transferred to the Forecasting file by either the Load Item/Warehouse from Basis program (FOR930) or the Item Warehouse Data from Basis program (FOR020).

Screen actions - FOR150D1-01

Commands	Description
All Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Specify basis information

After you indicate the item, warehouse, and optionally, the date of the basis data you want to update, Infor LX displays screen FOR150D2-01.

Field descriptions - FOR150D2-01

Fields	Description
Del (Delete) (1,A):	Specify D in the first column of a line if you want to delete it from the forecast. Leave this field blank if you are adding or changing a line.

If you entered Action 4 at a record on the previous screen, the system displays a D in the first column at that record and all records following that record for the same item and warehouse.

Press Enter or F6=Accept to delete the records. The system displays a message to confirm to delete the records. Press F12= Cancel to cancel.

Typ (Type of Demand) (1,A):

Infor LX supplies a valid entry to this field by default. You should not change this value since the system assigns it according to the type of basis data used for the specified item and warehouse. The valid entries are listed below.

Entry	Meaning	Basis Type (FOR140/FOR170)
Blank	Shipment	Shipment or Forecast (D/F)
R	Resupply order	Order (O)
O	Order	Order (O)

This entry specifies the type of data displayed in both the Adjusted and Actual Demand fields. Even if you change this value, Infor LX does not record the change.

Date (6,0):

Specify the date for the basis data that you want to adjust. Infor LX uses this date to determine which period of basis data you want to change based on the period date ranges you established for the specified item and warehouse through the Forecasting Periods program, FOR120. If you leave the date field blank, all records are displayed.

Values are grouped into period buckets when they are transferred to the Forecasting file by either the Load Item/Warehouse from Basis program, FOR930, or the Item Warehouse Data from Basis program, FOR020.

Demand (9,2):

Infor LX displays the actual demand (shipments less returns) for this date.

The system does not display a demand line if returns exceed shipments.

Adjusted Demand (9,2):

Specify the adjusted quantity. Infor LX then replaces this Adjusted Demand value for the actual shipment value (not netted for credits or returns) or order value if you load the Basis file data, JFB, into the Forecasting file, JFC/JFI, for the current forecast period. If you are initializing the Forecasting file for system start up, you can perform this load by using the Item Warehouse Data from Basis program, FOR020. Otherwise, this data transfer occurs routinely if you execute the Load Item Warehouse from Basis program, FOR930, at least once per period.

During the loading procedure, the demand value is grouped into an appropriate period bucket according to the date associated with the basis value. Program FOR930, used for updates, groups data for the current forecast period. Program FOR020, used for initialization, groups data for each forecasting period. You specify the cutoff dates for each period from the Forecast Periods program, FOR120. You also determine whether the demand data consists of shipping or order information from the Item Warehouse program, FOR170.

Adjusted Forecast (9,2): Specify the adjusted forecast history value. If you are using forecast history to generate forecasts, you may want to make basis value adjustments to this value. If you are using forecast history, the Adjusted and Actual Demand fields contain shipment values by default. You specify the type of basis data to be used for a particular forecast from the Item Warehouse Data program, FOR170, or from the Item Class/Warehouse Overrides program, FOR140, for first-time forecasts.

Infor LX retains the original forecast history value, but it substitutes the adjusted forecast value when the Basis file, JFB, data is transferred to the Forecasting file, JFC/JFI.

Average Selling Price (15,5): For shipments and orders, Infor LX computes an average price based on the quantities and the respective per unit price established either after the order was invoiced or from after it was placed. The individual per-unit costs can vary because of special pricing and other discounts.

For new items that do not have actual shipment or order data, the system retrieves the list price from the Item Master file, IIM. This entry is used only for memo. It is not processed by any other program.

Screen actions - FOR150D2-01

Commands	Description
F6=Accept	Edit your entries and update the file with the changes.
	All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Forecasting basis listing, FOR155D1

This program prints the forecast basis data that you set up in the Forecasting Basis program, FOR150.

Access: Menu FOR01

Specify period and run time parameters

Specify the period to print and whether to run the program in batch or interactive mode.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR155D-01

Fields	Description
From Item Class (5,A):	Specify a range of values to limit the class codes to include in the report.
To Item Class (5,A):	Specify a range of values to limit the class codes to include in the report.
From Item Number (35,A):	Specify a range of values to limit the item numbers to include in the report.
To Item Number (35,A):	Specify a range of values to limit the item numbers to include in the report.
From Warehouse (3,A):	Specify a range of values to limit the warehouses to include in the report.
To Warehouse (3,A):	Specify a range of values to limit the warehouses to include in the report.
From Date (6,0):	Specify a range of dates to limit the basis data to include in the report. See the overview information in this document.
To Date (6,0):	Specify a range of dates to limit the basis data to include in the report. See the overview information in this document.

Screen actions - FOR155D-01

Commands	Description
Standard screen actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Item warehouse data from basis, FOR020D

Use this program if history comes from Infor LX files, not from an external forecasting product. This program groups the Basis file data, JFB, into period bucket totals and copies these totals to the Forecasting file, JFC/JFI, so that they can be used to generate forecasts.

If you use history from an external forecasting product to load the Infor LX forecast file, JFI, basis data from JFB is not required.

You specified the number of periods per year from the Application Control program, FOR100, and you determine their actual cutoff dates through the Forecast Periods program, FOR120.

Usually, you use this program to initialize the Forecasting file, JFC/JFI, data fields when you first install your system and only if you want to update all basis data fields for the specified warehouses. You can perform periodic updates of the Forecasting file from the Basis file by using the Load Item/Warehouse from Basis program, FOR930. FOR930 simply updates the Forecasting file with new Basis file data so it is convenient for use periodically, such as at the end of each period.

FOR930 only updates current forecast period data.

If you execute the Item Warehouse from Basis program, FOR020, the system replaces all existing data in the Forecasting file with new period bucket totals from the Basis file, but only for the specified warehouses. Since this program updates all basis values in the Forecasting file for the specified warehouses, it does not retain any previous changes made to that Forecasting file data through the Item Warehouse Data program, FOR170. However, you can use FOR170 to adjust the Forecast file data after executing the Item Warehouse Data from Basis program, FOR020, or you can adjust the data on the Basis file by using the Forecast Basis program, FOR150, before that data is copied to the Forecasting file, JFC/JFI. Keep in mind that you can also adjust the Basis file data by using either of the following programs. Refer to the following sections for more information about updating the Basis file:

- Forecast Basis (FOR010)
- Update Current Demand (FOR910)
- Update Current Order (FOR915)
- Update Current Forecasts (FOR920)

Remember, you usually use the Item Warehouse Data from Basis program, FOR020, only when you first set up your system to initialize all the basis fields in the Forecasting file, JFC/JFI. After you have data in those fields, you can update them with new basis data by using the Load Item/Warehouse from Basis program, FOR930.

If the Distribution Resource Planning product is installed, a Forecasting system parameter set through the Forecasting Application Control program, FOR100, determines whether resupply shipments are included in the basis totals. The shipment confirmation process posts the resupply shipments to the Item Transaction History file (ITH).

If the Forecast/SPM relationship flag in FOR100, Application Control, is set to 2, which indicates Item/Warehouse Forecasts are generated by an external forecasting product, this program will not execute. Instead, you receive an error message and return to the menu.

Access: Menu FOR01

Specify data to initialize forecast file

Use Initial Item Warehouse Data Load FOR020D-01 to initialize the data fields in the Forecasting file, JFC/JFI, when you first install your system and only if you want to update all basis data fields for the specified warehouses.

Field descriptions - FOR020D-01

Fields	Description
Warehouse (3,A):	Specify the code for a specific warehouse to initialize the Forecasting File, JFC/JFI, for one warehouse, or leave the field blank to initialize the Forecasting file for all warehouses at the same time.
	Infor LX collects all available shipment, order, and forecast data from the appropriate files only for the warehouses specified, groups the individual amounts into period bucket totals according to the period cutoff dates specified from the Forecast periods program, FOR120, and copies that data to the Forecasting file, JFC/JFI.
	If you execute this program, all previous data in the Forecasting file is replaced by the data from the Basis file, but only for the specified warehouses. If you had previously adjusted this Forecast file data by using the Item Warehouse Data program, FOR170, those changes are not retained.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR020D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Modeling, FOR500B1

This program allows you to perform forecast modeling and print the results. Forecast modeling is the process of computing forecasts by a variety of methods for the purpose of determining which method produces the best approximation to the actual basis data values for a particular item group and customer group within a given period. The period used to compare the forecast values to the actual basis values is called the Modeling Period. The length of the modeling period is user-defined in the Application Control program, FOR100, and it is always the most recent history available.

Specify the item group and customer group for which you want to perform forecast modeling and the types of forecasting techniques you want the system to use. The system performs forecast modeling only for item groups and customer groups having an M in the Forecast Flag field in the Forecast file. You set this flag in the Item Warehouse Data program, FOR170.

Also use FOR170 to specify the error technique you want Infor LX to use to measure the error between the forecasts and the actual basis value. Both the forecasting methods and the error technique can also be set up at the item class and/or warehouse default level through the Item Class/Warehouse program, FOR140. These default values are used only if you have not made adjustments for specific item group and customer group from the Item Warehouse Data program, FOR170.

The Modeling program, FOR500, uses a best fit technique to determine which, of up to five possible forecasting techniques, produces the smallest cumulative error between the computed forecast values and the respective basis values for each forecasting period within the modeling period. The system selects the method with the smallest error to generate the forecast for the given item group and customer group if you execute the Forecast Generation program, FOR510. The same forecasting technique does not always produce the best approximation regardless of the method's mathematical integrity, because some methods are better equipped to handle certain patterns in the basis values than are other methods.

Execute this program only after completing each of the previous steps outlined in the Product Flow section of this document. These steps require that you perform the maintenance and initialization procedures necessary for the system to perform adequately. A good time to run this program is immediately after performing the forecasting period closing procedures, FOR910 through FOR930. The closing procedures capture the latest raw data and update the basis values accordingly.

The output from this program is an edit listing that contains the computed error values for each forecast, and indicates the best fitting technique. Infor LX automatically uses the best fitting technique to compute the respective forecasts if you execute the Forecast Generation program, FOR510, which is usually the

next processing step after the Modeling program, FOR500. This listing also indicates if there is insufficient data to perform modeling calculations.

If you access this program from the simulation menu, the system performs forecast modeling for all appropriate item group and customer group combinations in the active simulation model. If you access this program from the Forecasting menu, it uses actual live data in the Forecasting file, JFC/JFI.

Access: Menu FOR, Menu FOR02

Specify selection criteria

Specify the item group and customer group to perform forecast modeling and the types of forecasting techniques the system uses.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR500-01

Fields	Description
Lower Item Class (5,A):	Specify a range of values to limit the item class codes to include in the report. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Upper Item Class (5,A):	Specify a range of values to limit the item class codes to include in the report. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the item group.
Lower Item Group (35,A):	Specify a range of values to limit the item groups to include in the report.
Upper Item Group (35,A):	Specify a range of values to limit the item groups to include in the report.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the customer group.
Lower Customer Group (8,A):	Specify a range of values to limit the customer groups to include in the report. You must be authorized through the Security Maintenance program, SYS600, to use specific customer group codes.

Upper Customer Group (8,A): Specify a range of values to limit the customer groups to include in the report.

You must be authorized through the Security Maintenance program, SYS600, to use specific customer group codes.

Run Time Parameter (1,0): Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR500-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Forecast generation, FOR510D

This program generates forecast values and prints a report of these values. Usually, you would generate and print new forecasts at least as often as you perform the period close procedures, FOR900 through FOR930. However, you can generate and print forecasts whenever you want, especially if your basis values change.

If you are performing forecast modeling, run the Modeling program, FOR500, prior to running the Forecast Generation program, FOR510. Otherwise, you can run this program to print the forecasts anytime.

If you previously performed forecast modeling, Infor LX uses the best fit forecasting technique to generate the forecast. Otherwise, the method you specified in the Forecast Flag field of the Item Warehouse Data program, FOR170, is used.

The audit report portion of the Forecast Generation program prints a forecast for the number of periods into the future that you specified in Application Control, FOR100. After printing the forecast, Infor LX stores the forecast values by item group/customer group in the Forecasting file, JFC/JFI. You can update the final forecast values by using the Item Warehouse Data program, FOR170.

You can copy these forecasts into Forecast Simulation files (which are also stored in the Forecasting file, JFC/JFI, by using the Copy Forecast to Simulation program (FOR610). You must identify each set of simulation data by a unique filename, which can be up to 10 alphanumeric characters long. From the Simulation menu, you can manipulate the forecast basis values, the basic item warehouse data like the alpha smoothing factors and the long cycle factor, and even the final forecast values. These forecasts can be transferred back to the actual forecast in the Forecasting file, JFC/JFI, subject to password security.

The actual forecast for any valid item and warehouse combination can be loaded to the MPS/MRP Forecasting file, KMR, by using the Load Forecasts to MPS/MRP program, FOR540. Infor LX subdivides each forecasting period by the number of periods per forecasting period you specified from the Item Warehouse Data program, FOR170, if necessary. The MPS/MRP system can consume the forecast quantities with customer orders.

If you select the Forecast Generation program, FOR510, from the Simulation menu, FOR02, the system prints forecasts only for the valid item groups/customer groups in the active simulation model. There can be only one active simulation model at any workstation at any one time. This is determined by the last simulation filename selected from the Simulation Selection program, FOR600. All simulation forecasts and item group/customer group data are stored in the respective simulation file.

Access: Menu FOR, Menu FOR02

Specify selection criteria

Specify the item class, item group, customer group, and run time parameter to generate a forecast.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR510-01/FOR511-01

Fields	Description
Lower Item Class (5,A):	Specify a range of values to limit the item class codes to include in the report. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Upper Item Class (5,A):	Specify a range of values to limit the item class codes to include in the report. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the item group. Item Grouping short and long description text can be maintained using Forecast Application Control, FOR100.
Lower Item Group (35,A):	Specify a range of values to limit the item groups to include in the report. Maintain Item Grouping short and long description text with the Forecast Application Control program, FOR100.
Upper Item Group (35,A):	Specify a range of values to limit the item groups to include in the report. Maintain Item Grouping short and long description text with the Forecast Application Control program, FOR100.

Customer Group Hierar-chy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the customer group. Customer Grouping short and long description text can be maintained using Forecast Application Control, FOR100.
Lower Customer Group (8,A):	Specify a range of values to limit the customer groups to include in the report. Maintain Customer Grouping short and long description text with the Forecast Application Control program, FOR100.
Upper Customer Group (8,A):	Specify a range of values to limit the customer groups to include in the report. Maintain Customer Grouping short and long description text with the Forecast Application Control program, FOR100.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR510-01/FOR511-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Forecast adjustments, FOR520D

This program allows you to apply an overall percentage adjustment to the forecast values computed by the Forecast Generation program, FOR510. Use this factor to adjust all forecast values upward or downward by the specified percentage. You can apply a downward adjustment in the overall forecast values by using a negative percentage value.

The adjustment from this program is computed by adding a calculated percentage of the forecast value for each period to the forecast value itself. It affects the forecast value for each period in a similar fashion.

If you select the Forecast Adjustments program, FOR520, from the Forecasting menu, FOR, the program makes adjustments to the actual forecasts. You can also manually adjust the final forecast values from the Item Warehouse Data program, FOR170.

If you select this program from the simulation menu, the system updates only the selected forecasts from the active simulation model. Only one simulation file can be active at any workstation at any one time. The active model is determined by the simulation filename you select from the Simulation Selection program. The model remains active until another one is selected.

Access: Menu FOR, Menu FOR02

Specify selection criteria

Specify the item class, item group, customer group, percentage adjustment, and run time parameter to generate a forecast.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR520-01

Fields	Description
Lower Class (5,A):	Specify a range of values to limit the item class codes to include in the forecast. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Upper Class (5,A):	Specify a range of values to limit the item class codes to include in the forecast. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the item group.
Lower Item Group (35,A):	Specify a range of values to limit the item groups to include in the forecast.
Upper Item Group (35,A):	Specify a range of values to limit the item groups to include in the forecast.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the customer group.
Lower Customer Group (8,A):	Specify a range of values to limit the customer groups to include in the forecast.
Upper Customer Group (8,A):	Specify a range of values to limit the customer groups to include in the forecast.
Percentage Adjustment (4,1):	Specify the percentage adjustment factor. Infor LX adjusts the appropriate forecasts upward or downward by this percentage. A positive percentage adjustment factor causes the system to adjust the forecast values upward. A negative percentage adjustment factor adjusts the values downward.

This value can range between -100.0 and 999.9. You can specify negative values by entering a negative sign - after the value or by using the Negative Field Exit key to exit the field after entering in the value. If you use the Negative Field Exit key, the system represents the negative value by converting the last digit of the number into an alphabetic character. This is a convention used by the machine. The system retains the value as entered.

For example, to apply a 1% across-the-board increase to the forecast values, type 1 or 1.0. The system adjusts the forecast value of each period to be 1% higher than the current value. To adjust the values downward by 1%, type 1- or 1.0- or omit the minus sign and use the Negative Field Exit key to exit the field.

This program applies the adjustment to the existing forecast values. These values may already be adjusted upward or downward if you set up a long term adjustment factor from the Item Warehouse Data program, FOR170, for the appropriate item groups/customer groups. If this is the case, you can still use the Forecast Adjustment program, FOR520, to adjust the forecast values, but remember that you are adjusting the forecast values that have already been affected by a long term adjustment.

Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR520D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Constants generation, FOR530D

This program allows you to use the latest forecasts and basis values to generate the tracking signal. The tracking signal is a device designed to help you determine whether there are any adverse trends in your forecasts and whether your forecasts are getting better or worse from period to period.

The tracking signal is calculated for a forecast by dividing the smoothed error for the past year by the smoothed absolute error over the same period of time. However, the system generates new tracking signal values only for the item group/customer group combinations for which there are either changed item group/customer group parameters or updated basis or forecast values. The result of this calculation

is a quotient that varies in value between -1 and 1, since the magnitude of the numerator can be only as large as the denominator, and its sign can vary with the sign of the error itself, while the denominator is always positive. In practice, the magnitude of the numerator is equal to that of the denominator only if all forecast values are either too high or too low (that is, only if the sign of all errors is the same).

Through this technique, the tracking signal lets you determine whether your forecasts are consistently too high or too low. For example, a tracking signal of -1 indicates that all forecast values were consistently too high, since the only way for this to occur is if all forecasting errors were negative. Similarly, 1 indicates that the forecast values were too low. Values between -1 and 1 indicate that negative error cancelled positive forecast error in the numerator, so the resulting quotient indicates the extent to which the forecast was either too high or too low. It is represented as a ratio of the smoothed absolute error.

Finally, by comparing the tracking signals of successive periods, you can determine whether your forecast adjustments decreased or increased the value of the tracking signal, and consequently whether your adjustments provided a better or worse forecast, respectively.

To use the tracking signal effectively, you must understand that it is basically a device for measuring the trend of the actual forecast error. It indicates whether your forecasts have a tendency to be either too aggressive or too conservative.

The actual value of the tracking signal is not as important as the extent of significant variations in its value from period to period, and its general proximity to zero. If the tracking signal is near zero, this indicates that your forecast is relatively unbiased; that is, your forecast does not consistently overestimate or underestimate demand. However, you would need to view the forecast error values to determine the actual variation.

The further the value of the tracking signal from zero, the more likely it is that your forecast needs an overall adjustment upward or downward. An abrupt change in the tracking signal value from one period to the other represents a sharp change in the accuracy of your forecast.

The appropriate conclusion about a low tracking signal is that your forecasts tend to correct their own errors. A low tracking signal indicates that your long term adjustments and your smoothing factor for trend are working well.

Since the tracking signal is regenerated automatically if you run the Period Close program, FOR930, you might find the Constants Generation program, FOR530, most useful to regenerate tracking signal values after you adjust item group/customer group data during a period. You can use the Item Warehouse Data program, FOR170, to make such adjustments.

Infor LX allows you to set the alpha smoothing factor for the tracking signal calculation in the Item Warehouse Data program, FOR170, with the default and global value maintainable from the Item Class/Warehouse Data program, FOR140. This factor gives you the ability to determine how much mathematical weight the system assigns to more recent forecast errors. This feature allows you to adjust the sensitivity of the tracking signal to current activity. A higher alpha value makes the tracking signal more sensitive to recent forecast errors, causing a large forecast error in a recent period to create a relatively large change in the value of the tracking signal from period to period. As a general rule, the larger your forecast deviations, the higher your smoothing factor may need to be for recent values to sway the value of the tracking signal.

Access: Menu FOR

Specify the selection criteria

Specify the item class, item group, customer group, and run time parameter to generate constants.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR530D-01

Fields	Description
Lower Class (5,A):	Specify a range of values to limit the item class codes for which to generate the tracking signal to include in the report. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Upper Class (5,A):	Specify a range of values to limit the item class codes for which to generate the tracking signal to include in the report. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the item group.
Lower Item Group (35,A):	Specify a range of values to limit the item groups to designate the range for which to generate the tracking signal.
Upper Item Group (35,A):	Specify a range of values to limit the item groups to designate the range for which to generate the tracking signal.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the customer group.
Lower Customer Group (8,A):	Specify a range of values to limit the customer groups to designate the range for which to generate the tracking signal. You must be authorized through the Security Maintenance program, SYS600, to use specific customer group codes.
Upper Customer Group (8,A):	Specify a range of values to limit the customer groups to designate the range for which to generate the tracking signal.

You must be authorized through the Security Maintenance program, SYS600, to use specific customer group codes.

Run Time Parameter (1,0):   Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR530D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Load forecasts to MPS/MRP, FOR540D

This program allows you to load complete active forecast information into the Master Production Scheduling and Material Requirements Planning Forecast file, KMR, or into the Simulation Master Production Scheduling and Material Requirements Planning Forecast file, KSR. The forecast periods are automatically subdivided into smaller MPS/MRP planning periods based on the forecasts per period specified through the Item Warehouse Data program, FOR170, or the Item Class/Warehouse Overrides program, FOR140.

You would normally load a new forecast to the MPS/MRP files immediately after you have generated it and performed any adjustments to it. Timely forecasts provide the production planner with a better view of the business and sales plan that form the basis for planning for future orders. Timely forecasts also allow planners to provide feedback to the business and sales planners if the forecast creates a capacity problem.

Product Lifecycle Control may be used to restrict forecast creation for an item, an item/warehouse, or an item/facility. If the Product Lifecycle Control code for forecast creation is set to 2=Not Allowed, the system produces an error and the process cannot continue. If the Product Lifecycle Control code for forecast creation is set to 3=Allowed with Warning, the system produces a warning, but the process is allowed to continue. New forecast data upload is a two step process. First, the process deletes existing forecasts based on the specified selection ranges. Next, the process uploads the new forecasts. The system issues Product Lifecycle Control code messages for both the deletion and the creation of new forecasts.

After the new forecasts are in the MPS/MRP Forecast file, KMR, they can be maintained by using the Forecast Maintenance program, MRP100. Changes made through this program are recorded in the forecast history data in the Basis file, JFB, if you run the Update Current Forecast program, FOR920,

at the end of the forecasting period. Only those changes to forecast values in the current forecasting period are retained in forecast history.

If you set the Maintain Multiple Forecast Sources per day flag to Yes in the MRP Parameters, MRP820, program, Infor LX deletes existing Global Forecasts and creates new ones. Global forecasts are only one part of the total forecast that you can maintain. You can maintain Customer Specific Forecasts using Forecast Maintenance, MRP100.

Forecasting Simulation is still available if you set the Maintain Multiple Forecast Sources per day flag to Yes in the MRP Parameters program, MRP820. You can view and evaluate simulated new Global Forecasts only. You can view Customer specific forecasts using Forecast Maintenance, MRP100, they are not available in simulation.

Access: Menu FOR

Specify selection criteria

Use the Load Forecasts to MPS/MRP screen, FOR540D-01, to load complete active forecast information into the Master Production Scheduling and Material Requirements Planning Forecast file, KMR, or into the Simulation Master Production Scheduling and Material Requirements Planning Forecast file, KSR. Specify the item, warehouse, cutoff period, and parameters to load forecasts.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR540D-01

Fields	Description
Lower Item (35,A):	Specify the lower and upper item numbers to designate the range of items for which the forecasts are to be loaded into the MPS/MRP forecasting file, KMR.
Upper Item (35,A):	Specify the lower and upper item numbers to designate the range of items for which the forecasts are to be loaded into the MPS/MRP forecasting file, KMR.
Warehouse (3,A):	Specify the warehouse code for which to load forecasts into the MPS/MRP file, KMR. Leave this field blank to load forecasts for all warehouses.
Cutoff Period/Year (2,0)/ (2,0):	Specify the forecast period (01 through 13) and the last two digits of the forecast year to designate the final forecasting period that the forecast loading is to cover. All forecasts up through the ending date of this designated period are included in the load to MPS/MRP. The selected period/year must be a valid forecast period as set up in FOR120.

Cutoff Period/Year (2,0)/ (2,0): Specify the forecast period (01 through 13) and the last two digits of the forecast year to designate the final forecasting period that the forecast loading is to cover. All forecasts up through the ending date of this designated period are included in the load to MPS/MRP. The selected period/year must be a valid forecast period as set up in FOR120.

Forecasts to Remove (4,A): Accept the default value *SYS if you only want system-generated forecasts to be replaced by the forecasts currently in the Forecasting file, JFC/JFI. If the forecast was manually generated, the system does not replace it with values from the JFI file.

Specify *ALL to replace all forecasts (system- and manually-generated) the MPS/MRP Forecasting file, KMR.

Load File (1,A): Specify one of the following codes to indicate the MPS/MRP file to which selected forecast information should be loaded:

A

Active. The active Master Production Scheduling and Material Requirements Planning Forecast file, KMR, is loaded with active forecast information from the JFC/JFI Forecast file.

S

Simulated. The Simulated Master Production Scheduling and Material Requirements Planning Forecast file, KSR, is loaded with active forecast information from the JFC/JFI Forecast file.

Run Time Parameter (1,0): Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR540D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Forecasting inquiry, FOR300B1

This program allows you to display forecasts for any item group/customer group using any valid forecasting method. The system displays the resulting forecast values for each period in bar graph form side by side, with your choice of either the basis values or the forecast history values for each period.

You can also select a pegging inquiry that displays the period cutoff dates and the basis value for each period. Basis values can consist of either total shipping quantities or customer order totals. You determine which of these values the system displays for each item group/customer group by using the Item Warehouse Data program, FOR170, or the item Warehouse Overrides program, FOR140, to set the default level values. You can change the type of basis data used, or make adjustments to the basis quantities through the FOR170 program, and then return to this program, FOR300, to view how the forecast might change. However, if you want to make trial and error adjustments, it is advisable to perform these adjustments on simulation data rather than experimenting with the actual data.

All data used by the Forecast Inquiry program, FOR300, exists on the Forecasting file, JFC/JFI. The basis data used may have been loaded from the Forecast Basis file, JFB, by either the Load Item Warehouse Data from Basis program, FOR930, or the Item Warehouse Data from Basis program, FOR020. Both of these programs copy data from the Basis file to the Forecast file, but the FOR020 initializes all historical basis and forecast fields, whereas the FOR930 program only updates the Forecast file with new data from the current period. The basis data on the Forecasting file, JFC/JFI, can also be adjusted or entered in manually by using the Item Warehouse Data program, FOR170.

Data on the Basis file, JFB, represents raw basis values. These values are stored by date rather than in discrete time buckets as they are in the Forecasting file, JFC/JFI. Data in the Basis file, JFB, can be retrieved from any or all of three other files through either the Forecast Basis program, FOR010, or any of the three separate update programs, FOR910, FOR915, and FOR920. The FOR010 program is usually used only during system installation and it initializes all historical basis fields in the Basis file.

The three update programs gather information from the files separately and update the Basis file only with new data. Both of these update procedures gather shipment data from the Transaction History file, ITH, order data from the Order Detail file, ECL, and forecast history from the MPS/MRP Forecasting file, KMR, respectively. The data on the Basis file can also be adjusted or manually entered in by using the Forecast Basis program FOR150.

If you select the inquiry from the Simulation menu, the program uses data from the active simulation model. There can be only one active simulation model at any workstation at any one time, and it is specified from the Simulation Selection program, FOR600. The FOR600 program displays the active

simulation model if you access it. If you select the inquiry program from the Forecasting menu, FOR, the program uses actual forecasting data to generate the forecasts for viewing.

If you press Enter to continue with the forecasting inquiry, the system displays the requested data on the Demand versus Forecast screen, FOR300-01.

Access: Menu FOR, Menu FOR02

Specify selection criteria

Use the Forecasting Inquiry screen, FOR300D-01, to specify information to display forecasts for any item group/customer group with any valid forecasting method.

Field descriptions - FOR300D-01

Fields	Description
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be blank or equal to zero. To process high level forecasting, enter the hierarchy level to identify the item group. Item Grouping short and long description text can be maintained using Forecast Application Control, FOR100.
Item Group (35,A):	Specify the item group for which you want to display a forecast. Item Grouping short and long description text can be maintained using Forecast Application Control, FOR100.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be blank or equal to zero. To process high level forecasting, enter the hierarchy level to identify the customer group. Customer Grouping short and long description text can be maintained using Forecast Application Control, FOR100.
Customer Group (8,A):	Specify the customer group for the forecast you want to display. Customer Grouping short and long description text can be maintained using Forecast Application Control, FOR100.
Method (1,A):	Specify any valid forecasting method code. The standard method codes are 1 through 5, but you can create your own user-defined codes through the Methods and Errors program, FOR110.
	To change the method code, specify a different method code and pressing Enter. If you first specify the item group/customer group, the system displays the code for the last method you used in this field, and the system displays forecasts from the Forecasting file, JFC/JFI. The system does not recalculate

for this method. If the inquiry program generates a forecast, the forecast is used for display only.

Window (4,0): Initially, the system displays the forecast for one year with as much forecast or demand history as one screen can display. To view future or past data for additional periods, enter the number of additional periods to view, and press Enter.

Infor LX displays the number of additional periods of the forecast that you specified. It removes an equal number of history periods from the screen to make room for the new data.

To view additional history, specify the number of additional historical periods that you want to view by entering a negative number.

For example, to generate forecasts for two years and there are 12 periods per year, specify 12 into the Window field to view the entire forecast. To view two years of history (12 additional periods) instead of the forecast for the current or next year, specify 12- into the Window field.

Screen actions - FOR300-01

Commands	Description
Enter	View the Demand versus Forecast screen. Infor LX redisplays screen FOR300-01 with the requested data.
F15=For His and For	Access the Forecast versus Forecast History screen.
F16=Dem vs For His	Access the Demand History versus Forecast History screen.
F17=Pegging	View the pegging inquiry screen that displays the starting and ending dates for each period, and the forecasting value for each historical period.
F18=Print	Print the forecast information which you are currently viewing.
	All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

View history versus forecast

If you use F15=For His & For on the Demand and Forecast screen, FOR300D-01, or on the Demand versus Forecasted History screen, FOR300D-03, the system displays the ForHis and Forecast screen, FOR300D-02.

The system uses X's and I's to create the bar chart. The X's represent forecast history and the I's represent the forecast. The actual screen displays low intensity and high intensity bars to represent the demand and forecast values, respectively.

This screen displays 30 periods of data. If the Window field is blank, the system displays the forecast for the next year on the right side of the screen, and as much forecast history as possible prior to the current forecast. The system displays historical data on the left side of the screen. The older data is farthest to the left. The system displays the period and year for each value near the bottom of the screen.

Sixteen quantity levels are displayed on the left side of the screen. These levels are generated by computing even increments based on the largest value displayed.

Field descriptions - FOR300D-02

Fields	Description
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the item group.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the customer group.
Item Group (35,A):	Specify an item group if you want to change the item group for which you are displaying data. The item you selected on the first screen defaults to this screen.
Customer Group (8,A):	Specify a customer group if you want to change the customer group for which you are displaying data. The item you selected on the first screen defaults to this screen.
Method (1,A):	Specify a valid forecasting method if you want to change the method you entered on the Forecasting Inquiry Selection screen.
Window (4,0):	Specify the number of additional periods you want to display if is different from the number you selected on the Forecasting Inquiry Selection screen.

Screen actions - FOR300B-02 (History)

Commands	Description
F14=Dem & For	Return to the Demand versus Forecast screen.
F16=Dem vs For His	Access the Demand History versus Forecast History screen.

F17=Pegging	View the pegging inquiry screen that displays the starting and ending dates for each period, and the forecasting value for each historical period.
F18=Print	Print the forecast information which you are currently viewing.
	All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

View demand history vs. forecast history

If you press F16=Dem vs For His on the previous inquiry display screens (or the pegging screen), Infor LX displays the Demand History versus Forecast History screen, FOR300D-03.

This screen displays 30 periods of data. The most recent demand history and forecast history values are displayed on the right side of the screen; the older demand history and forecast history data is the farthest to the left. Both the period and year for each value display near the bottom of the screen.

Sixteen quantity levels appear on the left side of the screen. These levels are generated by computing even increments based on the largest value displayed.

Field descriptions - FOR300D-03

Fields	Description
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the item group.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the customer group.
Item Group (35,A):	Specify an item group if you want to change the item group for which you are displaying data. The item you selected on the first screen defaults to this screen.
Customer Group (8,A):	Specify a customer group if you want to change the customer group for which you are displaying data. The item you selected on the first screen defaults to this screen.
Year (2,0):	Specify the last two digits of the year for which you want to view demand history/forecast history information for something other than the current year.

Screen actions - FOR300-03

Commands	Description
F14=Dem & For	Return to the Demand versus Forecast screen.
F15=For His and For	Access the Forecast versus Forecast History screen.
F17=Pegging	View the pegging inquiry screen that displays the starting and ending dates for each period, and the forecasting value for each historical period.
F18=Print	Print the forecast information which you are currently viewing.
	All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

View pegging information

If you press F17=Pegging from any of the previous inquiry screens, Infor LX displays the pegging screen. This screen displays the period start and end dates along with the demand and forecast history value for each period. You specified the cutoff dates in the Forecast Periods program, FOR120.

Field descriptions - FOR300D-04

Fields	Description
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the item group.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the customer group.
Item Group (35,A):	Specify an item group if you want to change the item group for which you are displaying data. The item group you selected on the Forecast Inquiry Selection screen defaults to this screen.

Customer Group (8,A): Specify a customer group if you want to change the customer group for which you are displaying data. The customer group you selected on the Forecast Inquiry Selection screen defaults to this screen.

Roll Factor (2,0): If there are more periods than can be displayed from one screen, you can use this field to indicate the number of detail lines you want the system to skip so that the desired period appears at the top of the screen. For example, to view data for the 20th oldest historical period, type 20 into this field.

You may also use the Roll Factor field to view the decimal portion of the last history value on the screen, since the full screen indicator symbol, +, partially obscures the last value on the screen.

Screen actions - FOR300-04

Commands	Description
F14=Dem & For	Return to the Demand versus Forecast screen.
F15=For His and For	Access the Forecast versus Forecast History screen.
F16=Dem vs For His	Access the Demand History versus Forecast History screen.

All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Forecast and orders, FOR310B1

Use this program to compare system data at the item/warehouse level. Use this program to compare current customer open order totals to the values forecast for the individual periods. The forecast values used for this inquiry are generated by the Forecast Generation program, FOR510, and stored in the Forecasting file. You can adjust these values or manually enter the forecast with the Item Warehouse Data program, FOR170. However, make trial and error adjustments on simulation data rather than on the actual data. The forecast quantities for each period appear in bar graph form, side by side with the open order totals retrieved from the Order Detail file, ECL.

If you select the inquiry from the Simulation menu, the program uses data from the active simulation model. Only one active simulation model can be active at any workstation at any one time, and you specify it from the Simulation Selection program, FOR600. The system displays the name of the active simulation model at the bottom of the first screen of the FOR310 inquiry program.

If you select Forecast vs Orders Inquiry, FOR310, from the Forecasting menu, FOR, the program uses forecasting data to generate the forecasts.

If you select the inquiry program from either menu, Infor LX produces a bar chart screen. This screen displays the forecast and open order quantities for the first year of the forecast.

The quantities associated with different levels on the bar graph display to the left of the screen. The system generates these values automatically by computing 16 equally spaced values between zero and the highest forecast or open order quantity. The system displays the number of each period at the bottom of the screen.

Access: Menu FOR, Menu FOR02

Specify item and warehouse

Specify the item and warehouse to view forecast and order information.

Field descriptions - FOR310-01

Fields	Description
Item (35,A):	Specify the item number for which you want to display data.
Warehouse (3,A):	Specify the warehouse code for which you want to display data.

Screen actions - FOR310-01

Commands	Description
F14=Year 1	View the forecasts and orders inquiry for all periods in the first year. Year 1 displays in the upper right corner. Press F15=Year 2 to view Year 2 information.
F15=Year 2	View the forecasts and orders inquiry for all periods in the second year, if you made forecasts for two years. Year 2 displays in the upper right corner. Press F14=Year 1 to view Year 1 information.
F16=Forecast	View the cutoff dates for each period of the current and next year along with the quantities forecasted for each period.
F17=Orders	View the cutoff dates for each period of the current and next year along with the open order quantities for each period. Open order quantities result directly

from customer orders on the Order Detail file, ECL, that have been entered from the Order Entry product.

F18=Print Graph

Produce a printout of the bar graph.

All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

View quantities forecast

If you press F16=Forecast, the system displays the Forecast screen, FOR310-02, of the Forecasts and Orders program. The screen displays the quantities forecast for each of the periods. The cutoff dates for each period and the seasonality values used for each period in the forecast calculation also display on the screen. The cutoff dates are set by using the Forecast Periods program, FOR120, the seasonality values are set by using the Seasonality Factors program, FOR130, and the forecast quantities result from calculations performed by the Forecast Generation program, FOR510. Seasonality values can also be generated by the system through the Seasonality Factors program, FOR950. The forecast quantities can also be created or adjusted through the Item Warehouse Data program, FOR170. You determined the number of periods in the Application Control program, FOR100.

You can view forecast period and quantity data for other item and warehouse combinations simply by entering the desired item and warehouse code into the available fields and pressing Enter.

Field descriptions - FOR310-02

Fields	Description
Item (35,A):	Specify an item number and warehouse code if you want to change the item warehouse combination for which you are displaying data. The item you selected on the Forecast Inquiry Selection screen defaults to this screen.
Warehouse (3,A):	Specify an item number and warehouse code if you want to change the item warehouse combination for which you are displaying data. The item you selected on the Forecast Inquiry Selection screen defaults to this screen.

Screen actions - FOR310-02

Commands	Description
F14=Year 1	View the forecasts and orders inquiry for all periods in the first year. Year 1 displays in the upper right corner. Press F15=Year 2 to view Year 2 information.
F15=Year 2	View the forecasts and orders inquiry for all periods in the second year, if you made forecasts for two years. Year 2 displays in the upper right corner. Press F14=Year 1 to view Year 1 information.
F17=Orders	View the cutoff dates for each period of the current and next year along with the open order quantities for each period. Open order quantities result directly from customer orders on the Order Detail file, ECL, that have been entered from the Order Entry product.
	All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

View forecast orders

After you use F17=Orders on the previous screens, Infor LX displays the Orders screen, FOR310-03, of the Forecast and Orders program. The Orders screen displays open order details from the Order Detail file, ECL. The orders display in chronological order starting with the beginning date of the first forecast bucket. The system does not display past due orders.

Field descriptions - FOR310-03

Fields	Description
Item (35,A):	Specify an item number and warehouse code if you want to change the item warehouse combination for which you are displaying data. The item you selected on the Forecast Inquiry Selection screen defaults to this screen.
Warehouse (3,A):	Specify an item number and warehouse code if you want to change the item warehouse combination for which you are displaying data. The item you selected on the Forecast Inquiry Selection screen defaults to this screen.
Roll Factor (3,0):	Specify the number of order detail lines to roll when you use F7=Forward or F8=Backward. This field defaults to 15, one full screen.

The columns display the following information:

- Customer number and name
- Order Number
- Line Number (in the order)
- Order Type
- Quantity
- Request Date

The Infor LX Forecasting product also uses this date to group the orders into bucket totals.

Screen actions - FOR310-03

Commands	Description
F14=Year 1	View the forecasts and orders inquiry for all periods in the first year. Year 1 displays in the upper right corner. Use F15=Year 2 to view Year 2 information.
F15=Year 2	View the forecasts and orders inquiry for all periods in the second year, if you made forecasts for two years. Year 2 displays in the upper right corner. Use F14 to view Year 1 information.
F16=Forecast	View the forecast to open order inquiry for all periods in the second year, if you made forecasts for two years. The screen layout is very similar to that for the first year of forecasts. The only difference is that Year 2 displays in the upper right corner rather than Year 1. Use F16=Forecast to switch back and forth from one year to the next.

All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Forecasts vs base, FOR200D

This program prints the Forecast Base vs. Forecast report for all valid item groups/customer groups within the ranges you specify. This report contains the basis values for the past year and the forecast values, generated from those basis values, for the next year.

Both the basis and the forecast values are reported for each period defined from the Forecast Periods program, FOR120, with variance and percentage variance values for each period. The report also provides separate totals by item group and by item class. The basis data can be either order data, shipment data, or forecast history, depending on the type you selected from the Item Warehouse Data, FOR170, or Item Class/Warehouse Overrides program, FOR150. The forecast data represents the

actual forecasts stored on the forecast file, JFC/JFI. These forecasts contain all adjustments made through either the FOR170 program or the Forecast Adjustments program, FOR520. However, they do not contain adjustments made through the Forecast Maintenance program, MRP100, since those adjustments apply only to the forecasts in the MPS/MRP Forecast file, KMR.

If you select this report from the Simulation menu, it contains only the specified item group/customer group data from the active simulation model. Only one simulation model can be active at a time and that is determined by the simulation file you specify from the Simulation Selection program, FOR600. If you select this program from the Forecasting menu, it uses actual forecast data.

Access: Menu FOR, Menu FOR02

Specify selection criteria

Use Forecast Base vs. Forecast, FOR200-01, to specify the ranges of values for valid item groups/customer groups for which to print a Forecast Base vs. Forecast report. This report contains the basis values for the past year and the forecast values, generated from those basis values, for the next year.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR200-01

Fields	Description
Lower Item Class (5,A):	Specify the lower and upper item class to designate the range for which to print this report. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Upper Item Class (5,A):	Specify the lower and upper item class to designate the range for which to print this report. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the item group. Item Grouping short and long description text can be maintained using Forecast Application Control, FOR100.
Lower Item Group (35,A):	Specify the lower and upper item group to designate the range for which to print this report. Item Grouping short and long description text can be maintained using Forecast Application Control, FOR100.

Upper Item Group (35,A):

Specify the lower and upper item group to designate the range for which to print this report. Item Grouping short and long description text can be maintained using Forecast Application Control, FOR100.

Customer Group Hierarchy Level (2,0):

To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the customer group. Customer Grouping short and long description text can be maintained using Forecast Application Control, FOR100.

Lower Customer Group (8,A):

Specify the lower and upper customer groups to designate the range for which to print the forecast base versus forecast report. Customer Grouping short and long description text can be maintained using Forecast Application Control, FOR100.

Upper Customer Group (8,A):

Specify the lower and upper customer groups to designate the range for which to print the forecast base versus forecast report. Customer Grouping short and long description text can be maintained using Forecast Application Control, FOR100.

You must be authorized through the Security Maintenance program, SYS600, to use specific customer group codes.

Variance (1,A):

Accept the default entry V if you want a variance value to display for each period. Leave the field blank if you do not want a variance to display on the report.

Variance is the difference in units between the forecast and the basis value for a given period. Variance values are also computed for the item group and item class totals.

% Variance (1,A):

Accept the default entry P if you want a variance percent to display for each period. Delete the default entry and leave the field blank if you do not want a variance percentage to display on the report.

The variance percent value represents the size of the variance as a percentage of the forecast value for a given period. The report also computes variance percentages for the item and item class totals.

Run Time Parameter (1,0):

Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR200-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Forecasts, FOR210D

This program prints the Forecast Reports for all valid item groups/customer groups within the ranges you specify. This report contains the forecast and basis values for each remaining period in either the fiscal or calendar year.

Both the basis and the forecast values are reported for each remaining period in the fiscal year. You defined the cutoff dates for these periods from the Forecast Periods program, FOR120. This report also provides separate totals by item group.

The basis data can be either order data, shipment data, or forecast history, depending on the type you selected from the Item Warehouse Data, FOR170, or Item Class/Warehouse Overrides program, FOR150. The forecast data represents the actual forecasts stored on the Forecast file, JFC/JFI. These forecasts contain all adjustments made through either the FOR170 program or the Forecast Adjustments program, FOR520. However, they do not contain adjustments made through the Forecast Maintenance program, MRP100, since those adjustments apply only to the forecasts in the MPS/MRP Forecasting file, KMR.

If you select it from the Simulation menu, the report contains only the specified item group/customer group data from the active simulation model. Only one simulation model can be active at a time and that is determined by the simulation file you specify from the Simulation Selection program, FOR600. If you select the Forecast Reports program, FOR210, from the Forecasting menu, it uses actual forecast data.

Access: Menu FOR, FOR02

Specify cutoff dates

Use Forecast Report, FOR210D-01 to print a report for all valid item groups/customer groups within the ranges you specify. This report contains the forecast and basis values for each remaining period in either the fiscal or calendar year.

Both the basis and the forecast values are reported for each remaining period in the fiscal year. You defined the cutoff dates for these periods from the Forecast Periods program, FOR120. This report also provides separate totals by item group.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR210D-01

Fields	Description
Lower Item (35,A):	Specify the lower and upper item numbers to designate the range for which to print this report.
Upper Item Group 35,A):	Specify the lower and upper item numbers to designate the range for which to print this report.
Lower Warehouse (3,A):	Specify the lower and upper warehouse codes to designate the range for which to print this report. The system displays this field only if the Sales Performance Management product is installed.
Upper Warehouse (3,A):	Specify the lower and upper warehouse codes to designate the range for which to print this report. The system displays this field only if the Sales Performance Management product is installed.
Calendar/Fiscal (1,A):	This field determines which time periods for the item appear on the report. If you choose F, the system prints the Forecast Periods Year, as created in FOR120. This forecast period will not necessarily start January 1, nor does it have 12 months. The forecast period may have quarterly periods, 13 periods, or 12 periods. Choose the number of periods in the Application Control Parameters, FOR100. The system displays the current period plus one through the last period in the current fiscal year.
	If you choose C, the report sums up all transactions from the current month this year plus one, through the current month of next year, in 12 monthly buckets, regardless of the application parameters.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR210D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Product line summary, FOR220D

This program prints the Product Line Summary report for all valid item and warehouse combinations within the ranges you specify. This report contains the revenue amounts for each forecast period based on the quantity forecasted and the item's list price from the Item Master file, IIM. There are per period summary revenue totals for each different item and each different item class (product line). In addition, the detailed report provides per period summary totals for each item and warehouse combination. You defined the period cutoff days for each period from the Forecast Periods program, FOR120.

The forecast quantities used to compute the revenue values come from the actual forecasts stored on the Forecast file, JFC/JFI. These forecasts contain all adjustments made through the Item Warehouse Data program, FOR170, or the Forecast Adjustments program, FOR520. However, they do not contain adjustments made through the Forecast Maintenance program, MRP100, since those adjustments apply only to the forecasts in the MPS/MRP Forecast file, KMR.

If you select it from the Simulation menu, the report contains only the specified item and warehouse data from the active simulation model. Only one simulation model can be active at a time and that is determined by the simulation file you specify from the Simulation Selection program, FOR600. If you select the Product Line Report program, FOR220, from the Forecasting menu, it uses actual forecast data.

Access: Menu FOR

Menu FOR02

Specify selection criteria

Use Product Line Summary, FOR220D-01, to specify range fields that you use to limit the data the system selects for the Product Line Summary report.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR220D-01

Fields	Description
Lower Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to print this report.
Upper Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to print this report. Extreme values by default.
Lower Item (35,A):	Specify the lower and upper item numbers to designate the range for which to print this report.
Upper Item (35,A):	Specify the lower and upper item numbers to designate the range for which to print this report.
Detail/Summary (1,A):	Accept the default entry D, Detail, to print a detailed report. This means that the report provides per period revenue values for each valid item and warehouse combination within the selection limits you specify. Specify an S, Summary, directly over the default entry to print a report containing only the totals for the item and item class.
Periods to Project (2,0):	Specify any value between 1 and the maximum value for this field. The number of periods to project determines how many periods into the future this report covers.
	The maximum value this field can contain is determined by the value that results after you multiply the number of forecasting periods per year by the number of years for which you selected to generate forecasts. The number of periods per year can range from 1 through 13, and the number of years to forecast can be either 1 or 2. You set these values from the Application Control program, FOR100.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR220D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Forecast analysis, FOR230D

This program prints the Forecast Analysis report for all valid item groups/customer groups within the ranges you specify. This report provides a historical perspective of the forecast values because it contains both the actual forecast values for each period of the planning years and the historical forecast values for each period of the historical years in the specified range.

Both the forecast and forecast history values are stored on the Forecasting file, JFC/JFI. The historical values are created when you execute the Update Current Demand (FOR910), the Update Current Orders (FOR915), or the Update Current Forecast (FOR920) programs followed by the Load Item Warehouse from Basis program (FOR930). The update programs collect data from the Transaction History (ITH), the Order Detail (ECL), and the MPS/MRP Forecast file (KMR) and then update the Basis file (JFB) for the most recent closed period. The FOR930 program updates the historical data on the Forecasting file from the Basis file.

The forecast quantities on the report are also stored on the Forecasting file, JFC/JFI. Those forecasts contain all adjustments made through the Item Warehouse Data program, FOR170, or the Forecast Adjustments program, FOR520. However, they do not contain adjustments made through the Forecast Maintenance program, MRP100, since those adjustments apply only to the forecasts in the MPS/MRP Forecast file, KMR.

If you select it from the Simulation menu, the report contains only the specified item group/customer group data from the active simulation model. Only one simulation model can be active at a time and that is determined by the simulation file you specify from the Simulation Selection program, FOR600. If you select the Forecast Analysis Report program, FOR230, from the Forecasting menu, it uses actual forecast data.

Access: Menu FOR, Menu FOR02

Specify selection criteria

Use Forecast Analysis, FOR230D-01, to specify the range of values for all valid item groups/customer groups to limit the data the system selects to include in the Forecast Analysis report. This report provides a historical perspective of the forecast values because it contains both the actual forecast values for each period of the planning years and the historical forecast values for each period of the historical years in the specified range.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR230D-01

Fields	Description
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the item group.
Lower Item Group (35,A):	Specify the lower and upper item groups to designate the range for which to print this report.
Upper Item Group (35,A):	Enter the lower and upper item groups to designate the range for which to print this report.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the customer group.
Lower Customer Group (8,A):	Specify the lower and upper customer groups to designate the range for which to print this report.
Upper Customer Group (8,A):	Specify the lower and upper customer groups to designate the range for which to print this report.
Lower Year (1,0):	Specify the numbers of the lower and upper historical years to designate the range of values for the analysis. You may use values between 1 and the maximum number of years of history you have stored. The upper year limit cannot be larger than the number of years of history that you specified Infor LX should retain from the Application Control program, FOR100.
Upper Year (1,0):	Specify the numbers of the lower and upper historical years to designate the range of values for the analysis. You may use values between 1 and the maximum number of years of history you have stored. The upper year limit cannot be larger than the number of years of history that you specified Infor LX should retain from the Application Control program, FOR100.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR230D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Forecast vs. open orders, FOR240D

This program prints the Forecast vs. Open Order report for all valid item and warehouse combinations within the ranges you specify. This report contains both actual open order totals (retrieved from the Order Detail file-ECL) and actual forecast totals (from the Forecasting file-JFC/JFI) for each period in the next year. You defined the cutoff dates for these periods from the Forecast Periods program, FOR120. In addition to the summary totals, the detailed report provides itemized order quantities by order number for each item and warehouse combination.

The forecast values contain all adjustments made through either the Item Warehouse Data program, FOR170, or the Forecast Adjustment program, FOR520. However, they do not contain adjustments made through the Forecast Maintenance program, MRP100, since those adjustments apply only to the forecasts in the MPS/MRP Forecast file, KMR.

If you select it from the Simulation menu, the report contains only the specified item and warehouse data from the active simulation model. Only one simulation model can be active at a time and that is determined by the simulation file you specify from the Simulation Selection program, FOR600. If you select the Forecast vs Open Orders program, FOR240, from the Forecasting menu, it uses actual forecast data.

Access: Menu FOR, FOR02

Specify selection criteria

Use Forecast vs. Open Orders, FOR240D-01, to specify range fields that you use to limit the data the system selects for the Forecast vs. Open Orders report.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR240D-01

Fields	Description
Lower Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to print this report.
Upper Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to print this report.
Lower Item (35,A):	Specify the lower and upper item numbers to designate the range for which to print this report.
Upper Item (35,A):	Specify the lower and upper item numbers to designate the range for which to print this report.
Lower Warehouse (3,A):	Specify the lower and upper warehouse codes to designate the range for which to print this report.
Upper Warehouse (3,A):	Specify the lower and upper warehouse codes to designate the range for which to print this report.
Order Detail (1,A):	Specify D to generate a report that provides itemized order quantities by order number for each different item and warehouse combination, starting with the cutoff date of the first forecast period. Leave this field blank to generate a report that does not contain the itemized quantities.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR240D-01

Commands	Description
Standard screen actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Tracking signals, FOR250D

This program prints the Tracking Signal report, which contains the values computed for each forecast by the Generate Constants program, FOR530. The tracking signal is a device designed to help you determine whether there are any adverse trends in your forecasts, and whether your forecasts are getting better or worse from period to period. There is a detailed discussion about how the tracking signal is calculated and what it means in the Overview section of the Constants Generation program, FOR530.

Tracking signal values range from -1 to 1. Generally, a value close to zero indicates that your forecast is relatively unbiased. That is, the forecast shows no signs of being consistently too high or too low. The further the tracking signal value is from zero, the greater is the possibility that your forecast needs an overall adjustment either upward or downward.

Infor LX lets you measure the proximity of tracking signal values to zero in terms of standard deviations. A standard deviation is a statistical convention used to calculate a range of values around a mean (which is zero in this case). The values within this range are viewed as being acceptable variations from the norm, or anticipated value. The exact range is based on the value of the alpha smoothing factor used to calculate the tracking signal. This factor is determined from the Item Warehouse Data program, FOR170, or from the Item Class/Warehouse program, FOR140, for default values. The exact formula is shown below:

(1/2) Value of standard deviation = 0.55 x e

where e = alpha smoothing factor for error.

This concept can be extended by multiplying the resulting standard deviation value by 2 and 3, respectively, to arrive at range values for 3 different levels of accuracy. These progressively larger value ranges are called 1, 2, and 3 standard deviations from the norm, respectively. If you generate the Tracking Signal report, you can specify the number of standard deviations you want to display on the report by entering in the appropriate Confidence number. The Confidence number represents the number of standard deviations you want the report to use to determine if a tracking signal value is out of an acceptable range. This depends on how far you think the signal should vary from zero before you need to make adjustments to bring it back within the acceptable range. The range you specify appears at the top of the report.

The percentage of tracking signal values that fall within each standard deviation is predictable based on a normal distribution. This means that there is a specific probability that a given tracking signal value will fall within a particular standard deviation. The percent probability that a given Tracking signal value falls within this range is shown in the table below for 1, 2, and 3 standard deviations.

No. of Std Deviations	% Probability
1	68.27 %
2	95.45 %
3	99.73 %

You can generate this report at any time, but you might find it most useful after you execute the Generate Constants program, FOR530, which uses any new basis and forecast data to generate up-to-date tracking signal values.

Access: Menu FOR

Specify selection criteria

Use Tracking Signals, FOR250-01, to specify range fields that you use to limit the data the system selects for the Tracking Signal report.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR250-01

Fields	Description
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the item group.
Lower Item Group (35,A):	Specify the lower and upper item group to designate the range for which to print the tracking signal report.
Upper Item Group (35,A):	Specify the lower and upper item group to designate the range for which to print the tracking signal report.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the customer group.
Lower Customer Group (8,A):	Specify the lower and upper customer groups to designate the range for which to print the tracking signal report.

Upper Customer Group (8,A): Specify the lower and upper customer groups to designate the range for which to print the tracking signal report.

Confidence 0/1/2/3 (1,0): Specify a 0, 1, 2 or 3 to specify the number of standard deviations Infor LX should use to determine which tracking signal values are out of range and, consequently, which signals appear on the report. By specifying a confidence level, you indicate the amount of variation from zero that you will tolerate before the forecast, in your judgment, needs to be adjusted. As a result, all tracking signals that appear on the report represent forecasts to be maintained.

0 = (All)

1 = (1 standard deviation)

2 = (2 standard deviations)

3 = (3 standard deviations)

0 indicates that all tracking signals should appear on the report regardless of their values. The other entries represent a range around the value zero within which tracking signal values can vary without indicating that the forecast needs adjustment. That is, you remain confident in the forecast if the tracking signal falls within this range. The report prints only the tracking signals that fall outside of this range.

The range values are computed by the formula presented in the Overview to this program, and they always appear on the top of the report.

Run Time Parameter (1,0): Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR250-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Outliers, FOR260D

This program prints the Outliers report for all valid item group/customer group combinations within the ranges you specify. You can generate this report at any time, but you might find it most useful after

performing Forecast Modeling (FOR500), Forecast Generation (FOR510), or Forecast Inquiry (FOR300), since the outlier demand values are adjusted prior to performing these forecasting calculations.

The Outliers report lists actual demand values that are outside a demand tolerance range, and then adjusted to the limits of the tolerance range. The report data is organized by item and warehouse.

Demand Tolerance Range

The demand tolerance range is an area between upper and lower demand control limits. First the program establishes a demand trend line, and then it establishes parallel lines. Parallel lines are an upper control limit above the trend line and a lower control limit below the trend line. The calculations utilized to determine the trend line and the control limits are discussed in the next two sections.

Trend Line Calculation

FOR260 uses the Least Squares algorithm to calculate the trend line through the demand data (one demand point per historical demand period) such that the distance between each data point and the trend line is minimized. Based on the De-seasonalize Outlier Demand parameter in FOR100 the demand data may be depersonalized prior to calculating the trend line. The equation measures the distance from the data point to the trend line (the deviation), squares this distance (squared deviation), and adds the squares of all the deviations. After the sum of these squared deviations is minimized, the resulting "best fit" line is considered the Trend Line.

Control Limit Calculations

Once the trend line has been determined, the absolute value of the deviations are summed, and then divided by the number deviations to compute the Mean Absolute Deviation, MAD. The MAD is multiplied by the quantity 1 plus the Irregularity Smoothing Percent to determine the demand tolerance. Then the demand tolerance is added to the trend line to define the Upper Control Limit, and subtracted from the trend line to define the Lower Control Limit. Any demand data point above the Upper Control Limit, or below the Lower Control Limit, is considered an outlier and moved to the respective control limit tolerance for the purpose of computing the forecast model or forecast. If the demand has been depersonalized, it will be re-seasonalized after the demand has been adjusted by the outlier logic.

If no Irregularity Smoothing Percent is specified, all demand data is processed without adjustment.

Demand data comes from the Item Warehouse Data file, JFI, maintained by utilizing FOR170. The Irregularity Smoothing Percents are defined for Item Classes and Warehouse defaults utilizing the Item Class/Warehouse Overrides program, FOR140. These defaults are overridden at the Item/Warehouse level if they are defined in the Item Warehouse Data maintenance program, FOR170.

Access: Menu FOR

Specify selection criteria for outliers report

Use Outliers, FOR260D-01, to specify range fields that you use to limit the data the system selects for the Outliers report.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR260D-01

Fields	Description
Lower Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to print this report. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Upper Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to print this report. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the item group.
Lower Item Group (35,A):	Specify the lower and upper item group to designate the range for which to print the outliers report.
Upper Item Group (35,A):	Specify the lower and upper item group to designate the range for which to print the outliers report.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the customer group.
Lower Customer Group (8,A):	Specify the lower and upper customer groups to designate the range for which to print the outliers report.
Upper Customer Group (8,A):	Specify the lower and upper customer groups to designate the range for which to print the outliers report.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR260D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Purge and roll history, FOR900D

This program allows you to roll the existing basis, forecast and forecast history values from their respective period buckets to the quantity buckets for the previous period. This moves all values down one bucket, thus creating room in the current period buckets for the new values. As this program is rolling the values to their respective previous-period buckets, it is testing the age of the data to make sure that it is not older than the limit for which the system has been instructed to retain data. This limit is determined in the Amount of History to Retain field in the Application Control program, FOR100. Values older than the specified limit are removed, or purged, from the system.

This is the first program in the forecasting period close procedure. Normally, you execute the Purge and Roll History program, FOR900, if you are ready to record a new basis value for the period just passed. Next you execute the Update Current Demand, FOR910, Update Current Orders, FOR915, and/or the Update Current Forecast, FOR920, programs, depending on the basis data that you want to keep up to date. Finally, you execute the Load Item/Warehouse from Basis program, FOR930.

If you update demand with an external forecasting product, you should not perform the two previous steps, FOR920/FOR930.

The Update Seasonality History (FOR940) and Update Seasonality Factors (FOR950) programs are routinely run at the end of each year, so they are usually not included in the period close procedures.

Access: Menu FOR

Specify selection criteria

Use Purge and Roll History, FOR900D-01, to specify range fields that you use to limit the periods and the number of years the system selects to Purge and Roll History.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR900D-01

Fields	Description
Roll Forecasts? (1,A):	Y
	Rolls the existing basis, forecast, and forecasting history values from their respective period buckets to the quantity buckets for the previous periods.
	N
	Rolls the existing basis, forecast and demand values, but does not affect forecasting history values and does not transfer the current period forecast value to forecast history
	As indicated on this screen, backup the Forecasting file, JFI/JFB, before you execute this program. If a system problem occurs while Infor LX is processing this program, data could be lost. You can use a current backup to restore damaged files and to continue processing.
	This program screen displays the current period and year, the period and year of the pending current period, and the number of years the system retains data. If you need to adjust these values, do so before you execute this program. You adjust the current period and the number of years to retain from the Application Control program, FOR100. The system automatically determines the pending current period and year.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR900D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Update current demand, FOR910D

This program allows you to update the basis demand values in the Forecast Basis file, JFB, with the actual shipment quantities recorded on the Transaction History file, ITH, during the period that you are now closing. The cutoff dates for this period are defined in the Forecast Periods program, FOR120.

If the Distribution Resource Planning product is installed, Infor LX uses the system parameter specified through the Forecasting Application Control program, FOR100, to determine whether shipments of resupply orders are included in the basis totals. Resupply shipments are posted to the Item Transaction History file, ITH, through the Invoice Release program.

Use this program to capture shipment data to use as basis values for your forecasts. If you prefer, you can use actual order data from the Order Detail file, ECL, or forecast history data from the MPS/MRP Forecast file, KMR, rather than using shipment data. You specify the default data used for each item and warehouse combination in the Item Warehouse Data, FOR170, program or the Item Class/Warehouse, FOR140, program. If you are not using shipment data, you do not need to execute this program as part of the period closing procedure. Instead, use the Update Current Orders, FOR915, or the Update Current Forecast, FOR920, programs to record the associated data to the Basis file, JFB.

After the Basis file, JFB, has been updated with the most recent shipment data, you can update the Forecasting file, JFC/JFI, with the new basis value by executing the Load Item/Warehouse from Basis program, FOR930.

The forecasting system cannot use the new basis information until it is loaded to the Forecasting file. Execute the Purge and Roll History program, FOR900, before running the FOR910 or FOR930 programs to make sufficient room in the Forecasting file for the new data.

Access: Menu FOR

Specify selection criteria

Use Update Current Demand, FOR910D-01, to specify range fields that you use to limit the data the system selects to update the basis demand values in the Forecast Basis file, JFB, with the actual shipment quantities recorded on the Transaction History file, ITH, during the period that you now close. The cutoff dates for this period are defined in the Forecast Periods program, FOR120.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR910D-01

Fields	Description
Lower Item Class (5,A):	Specify the lower and upper item class code to designate the range of item class codes for which to update the basis demand values.
Upper Item Class (5,A):	Specify the lower and upper item class code to designate the range of item class codes for which to update the basis demand values.
Lower Item (35,A):	Specify a range of item numbers to update the basis demand values for these items.

Upper Item (35,A): Specify a range of item numbers to update the basis demand values for these items.

Warehouse (3,A) Specify the warehouse code for which to update the basis demand values. Leave this field blank to update the basis demand values for all warehouses.

Run Time Parameter (1,0): Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR910D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Update current orders, FOR915D

This program allows you to update the basis demand values in the Forecast Basis file, JFB, with the actual customer order quantities recorded on the Order Detail file, ECL, during the period that you are now closing. The cutoff dates for this period are defined in the Forecast Periods program, FOR120.

If the Distribution Resource Planning, DRP, product is installed, Infor LX uses the system parameter specified through the Forecasting Application Control program, FOR100, to determine whether resupply orders are included in the basis totals. Resupply orders are created on the Order Detail file, ECL, through the Generate Resupply Orders program, DRP541.

You can use this program to capture order data to use as basis values for your forecasts. If you prefer, you can use actual shipment data from the Transaction History file, ITH, or forecast history data from the MPS/MRP Forecast file, KMR, instead of using order data. You specify the type of default data used for each item and warehouse combination in the Item Warehouse Data program, FOR170, or the Item Class/Warehouse program, FOR140.

If you are using order data, this program always retrieves order totals, except if the quantity shipped for an order is greater than the quantity ordered. In that case the system retrieves the shipment quantity.

If you are not using order data, you do not need to execute this program as part of the period closing procedure. Instead, use either the Update Current Shipments program, FOR910, or the Update Current Forecast program, FOR920, to record the associated data to the Basis file, JFB.

The forecasting system cannot use the new basis information until it is loaded to the Forecasting file. Execute the Purge and Roll History program, FOR900, before running either the FOR915 or FOR930 programs to make sufficient room in the Forecasting file for the new data.

After the Basis file, JFB, has been updated with the most recent order data, you can update the Forecasting file, JFC/JFI, with the new basis value by executing the Load Item/Warehouse from Basis program, FOR930.

The screen displays the current year and period of order data.

Access: Menu FOR

Specify selection criteria

Use Update current orders, FOR915D, to specify range fields that you use to limit the data the system selects to update the basis demand values in the Forecast Basis file, JFB, with the actual customer order quantities recorded on the Order Detail file, ECL, during the period that you now close. The cutoff dates for this period are defined in the Forecast Periods program, FOR120.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR915-01

Fields	Description
Lower Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to update the basis demand values.
Upper Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to update the basis demand values.
Lower Item (35,A):	Specify the lower and upper item numbers to designate the range for which to update the basis demand values.
Upper Item (35,A):	Specify the lower and upper item numbers to designate the range for which to update the basis demand values.
Warehouse (3,A):	Specify the warehouse code for which to update the basis demand values. Leave this field blank to update the basis demand values for all warehouses.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR915-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Update current forecast, FOR920D

This program allows you to update the basis values in the Forecast Basis file, JFB, with the actual forecast quantities recorded on the MPS/MRP Forecasting file, KMR. These are the forecast quantities used by the production planner to schedule planned orders for the period you are now closing. The cutoff dates for this period are defined in the Forecast Periods program, FOR120.

Execute this program if you want to capture forecast history for the basis values used to generate new forecasts. Rather than using forecast history, you can use either actual shipment data from the Transaction History file, ITH, or actual order data from the Order Detail file, ECL. You specify the defaults to be used for each item and warehouse combination in the Item Warehouse Data program, FOR170, or the Item Class/Warehouse program, FOR140. If you are not using forecast history, do not execute this program as part of the period closing procedure. In this case, use the Update Current Shipments program, FOR910, or the Update Current Orders program, FOR915, to record the associated data to the Basis file, JFB. However, always capture forecast history to monitor how well your forecasts perform.

After you update the Basis file, JFB, with the most recent forecast history, execute the Load Item/Warehouse from Basis program, FOR930, to update the Forecast file, JFC/JFI, with the new basis values.

The forecasting system cannot use the new basis information until it is loaded to the Forecasting file. Execute the Purge and Roll History program, FOR900, before you execute either the FOR920 or FOR930 programs to make sufficient room in the Forecasting file for the new data.

When you set up your system for the first time, use the Forecast from Forecast Basis program, FOR020, instead of the FOR930 program to copy the Basis file data to the Forecasting file. The FOR020 program copies all historical Basis file data to the Forecasting file, which is not necessary if the system is already in operation.

Access: Menu FOR

Specify selection criteria

Use Update Current Forecast, FOR920D-01, to specify range fields that you use to limit the data the system selects to update the basis demand values in the Forecast Basis file, JFB, with the actual forecast quantities recorded on the MPS/MRP Forecasting file, KMR, for the period you now close. The cutoff dates for this period are defined in the Forecast Periods program, FOR120.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR920D-01

Fields	Description
Lower Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to perform the updates of the Forecast Basis file.
Upper Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to perform the updates of the Forecast Basis file.
Lower Item (35,A):	Specify the lower and upper item numbers to designate the range for which to perform the updates of the Forecast Basis file.
Upper Item (35,A):	Specify the lower and upper item numbers to designate the range for which to perform the updates of the Forecast Basis file.
Warehouse (3,A):	Specify the warehouse code for which to update the Forecast Basis file. Leave this field blank to update the Forecast Basis file for all warehouses.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR920D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Load item/whse from basis, FOR930D

Use this program to update the current period in the Forecasting file, JFC/JFI, with the newly updated raw data from the Forecast Basis file, JFB, so that the data can be used to generate new forecasts. This is the final program in the period closing procedure, and you run it after the Roll and Purge program (FOR900) and the basis file update programs (FOR910, FOR915, and FOR920).

If you execute the Load Item/Warehouse from Basis program, FOR930, the system records all changed values in the Forecasting file and overrides the existing values for the current forecast period. Therefore, the system does not retain manual adjustments made to the basis data for the current forecast period in the Forecasting file through the Item Warehouse Data program, FOR170, after you execute FOR930.

Both FOR930 and the Load Forecast from Forecast Basis program (FOR020) update the Forecasting file (JFC/JFI) from the Basis file (JFB). The difference between these two programs is that FOR930 simply updates the Forecasting file with any changed values for the current forecast period, while FOR020 initializes all current and historical basis and forecast period buckets from the Basis file. This is not necessary if you have already performed forecast processing.

You can use this program to update the Forecasting file, JFC/JFI, from the Basis file, JFB, at any time.

If you update your forecasts for Item Number and Warehouse combinations with an external forecasting product, indicated by a 2 in the Forecasting/SPM Relationship flag on the Application Control Screen, FOR100, you cannot run FOR930. If you attempt to run FOR930 you receive an error message and return to the program which called it.

Access: Menu FOR

Specify warehouse to update forecast data

Use Load Item/Warehouse From Basis, FOR930D-01, to specify a warehouse to update the current period in the Forecasting file, JFC/JFI, with the newly updated raw data from the Forecast Basis file, JFB, so that the data can be used to generate new forecasts.

Field descriptions - FOR930D-01

Fields	Description
Warehouse (3,A):	Specify the warehouse code for which to update the Forecasting file. Leave this field blank to update the Forecasting file for all warehouses.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR930D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Year end seasonality history, FOR940D

This program allows you to record the seasonality values that were used for forecasting during the year so that they can be used to generate seasonality values for the next year. The program is usually used at the end of the year. Use this program only after you have generated the last forecast for the year. After executing this program, you run the Year End Seasonality Factors program, FOR950, to generate the seasonality factors for the new year. You must run the FOR940 program before the FOR950 program. Both the historical and the current seasonality factors are stored on the Seasonality History file, JFH.

The Year End Seasonality History program, FOR940, records the seasonality factors actually used during the year for a particular forecast. These factors can be either computed from previous years of seasonality values, or they can be taken from seasonality tables that you create through the Seasonality Factors program, FOR130. Which default seasonality history values are used depends on the entry you made in the Item Warehouse Data program, FOR170, or the Item Class/Warehouse Overrides program, FOR140. The seasonality values specified by these programs at the time the FOR940 program is executed are the values that are stored. If these values are from a seasonality table, you should make any desired adjustments to their values in the FOR130 program before executing the Year End Seasonality History program.

This program will only create seasonality records for those items for which the seasonality code in Item/Warehouse Data is not flagged as SH.

The screen displays the current year of seasonality history.

Access: Menu FOR

Specify selection criteria

Use Year End Seasonality History, FOR940D-01, to specify a range of fields for item class, item group and customer group to limit the data the system selects to generate the Year End Seasonality History.

This program records the seasonality values used for forecasting during the year so that they the system can use them to generate seasonality values for the next year.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR940D-01

Fields	Description
Lower Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to perform record the seasonality history values. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Upper Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to perform record the seasonality history values. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the item group.
Lower Item Group (35,A):	Specify the lower and upper item groups to designate the range for which to record the seasonality history values.
Upper Item Group (35,A):	Specify the lower and upper item groups to designate the range for which to record the seasonality history values.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the customer group. You must be authorized through the Security Maintenance program, SYS600, to use specific customer group codes.
Lower Warehouse (3,A):	Specify the lower and upper warehouse codes to designate the range for which to print this report. The system displays this field only if the Sales Performance Management product is installed.
Upper Warehouse (3,A):	Specify the lower and upper warehouse codes to designate the range for which to print this report. The system displays this field only if the Sales Performance Management product is installed.
Lower Customer Group (8,A):	Specify the lower and upper customer groups to designate the range for which to record the seasonality history values.

Upper Customer Group (8,A):	Specify the lower and upper customer groups to designate the range for which to record the seasonality history values.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR940D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Year end seasonality factors, FOR950D

This program generates seasonality factors for the upcoming forecast years based on demand in the Forecasting Detail file, JFI. The seasonality factors are generated based on at least two years of demand history using the Holt-Winters algorithm, which smoothes using seasonality and trend. Both historical and new seasonality factors are stored in the Seasonality History file, JFH.

If the system generates forecast models and generates the forecast, it uses forecasting demand data and the seasonality factors, tailored according to the forecasting parameters used in Forecasting Application Control (FOR100), Item Class and Warehouse Overrides (FOR140), and Item Warehouse Data (FOR170) for item/warehouse or product-group/item-group specific overrides.

Year End Seasonality Factors, FOR950, should be run once a year after completing the last period close procedures: FOR900 through FOR930, and after processing the Year End Seasonality History, FOR940.

Access: Menu FOR

Specify selection criteria

Use Year End Seasonality Factors, FOR950D-01, to specify a range of fields for item class, item group and customer group to limit the data the system selects to generate the Year End Seasonality Factors. The system generates seasonality factors based on at least two years of demand history.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR950D-01

Fields	Description
Lower Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to generate new seasonality factors. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Upper Item Class (5,A):	Specify the lower and upper item class codes to designate the range for which to generate new seasonality factors. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the item group.
Lower Item Group (35,A):	Specify the lower and upper item groups to designate the range for which to generate new seasonality factors.
Upper Item Group (35,A):	Specify the lower and upper item groups to designate the range for which to generate new seasonality factors.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, type the hierarchy level to identify the customer group.
Lower Customer Group (8,A):	Specify the lower and upper customer groups to designate the range for which to generate new seasonality factors.
Upper Customer Group (8,A):	Enter the lower and upper customer groups to designate the range for which to generate new seasonality factors. You must be authorized through the Security Maintenance program, SYS600, to use specific customer group codes.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR950D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Simulation selection, FOR600D

This program allows you to select a simulation model to use for simulated forecasting activities. Each simulation file represents a separate set of simulation data and is identified by a unique filename. Although you can have numerous simulation files on your system, there can be only one active simulation model at any workstation at any one time. All forecast processing, inquiry, and reporting from the Simulation menu, FOR02, either affects or uses data in the active simulation model, however, these activities do not affect the actual forecast data stored in the Forecasting file, JFC/JFI.

Simulation files are created from the Copy Forecast to Simulation program, FOR610, and are stored in the Forecasting file, JFC/JFI. Within the Forecasting file, they are stored separately from the actual forecast data. They are identified by names that you assigned in the FOR610 program, and they contain item group/customer group data, basis values, and both forecast and forecast history values.

Simulation files allow you to manipulate and experiment with forecast data, basis values, and forecast values without affecting your actual forecast data. If you later want to replace some or all of your actual forecasts with simulation forecasts, you can use the Simulation to Forecast program, FOR620, to perform the copy. The Simulation Security Codes Maintenance program, FOR180, lets you establish password security for the FOR620 program.

You can change the active simulation model at any time, by accessing the FOR600 program and selecting the desired file. If you plan to use the same simulation model repeatedly, you do not need to reselect it each time. You only need to use the Simulation Selection program to change the active simulation model.

Access: Menu FOR

Select simulation model

Use Simulation Selection, FOR600D-01, to select a simulation model to use for simulated forecasting activities. Each simulation file represents a separate set of simulation data and is identified by a unique filename. Although you can have numerous simulation files on your system, there can be only one active simulation model at any workstation at any one time.

Field descriptions - FOR600D-01

Fields	Description
Act (1,0):	Select action and press Enter. Specify line action 8=Position to, to position a record at the top of the window. Specify 11=Select in the column to the left of the file name you want to select. The selected simulation file then becomes the active simulation model and all activities performed from the Simulation menu, FOR02, either use or affect the data for that active model.
Model Name (10,A):	Specify the model name.

Screen actions - FOR600D-01

Commands	Description
F5=Reset	Return the active status to the forecast model that was originally active. You can then exit the program without changing the active status of the simulation model.
	All other screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Copy forecast to simulation, FOR610D

This program allows you to copy sets of item group/customer group information from a forecast to a simulation file. The information includes the item group/customer group data, the basis values, and both the forecast and forecast history values.

You can have numerous simulation files on your system. Each file represents a separate set of simulation data and is identified by a unique filename assigned to it in the FOR610 program. Use the Simulation Selection program, FOR600, to select the simulation model into which the forecast data is to be copied.

If you later want to replace some or all of your actual forecasts with simulation forecasts, you can use the Simulation to Forecast program, FOR620, to perform the copy.

Access: FOR02

Specify selection criteria

Use Copy Forecast to Simulation, FOR610D-01, to specify sets of item group/customer group information to copy from a forecast to a simulation file. The information includes the item group/customer group data, the basis values, and both the forecast and forecast history values.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR610D-01

Fields	Description
Model Name (10,A):	Specify the name by which to identify the set of forecasts and forecast data you are copying into a simulation file.
	Identify each model or simulation file by a unique model name. That name must begin with an alpha character. The rest of the name can consist of any combination of letters, numbers, or the underscore character, _. There can be no blank spaces between characters in the model name.
	Use the Simulation Selection program, FOR600, to view the available simulation model names.
Model Description (50,A):	Specify a brief description of the contents of the simulation model. This description displays next to the model name in the Simulation Selection program, FOR600, to help you identify the file that you want to be active.
Lower Item Class (5,A):	Specify the lower and upper item class code to designate the range of item/warehouse combinations to include in this simulation file. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Upper Item Class (5,A):	Specify the lower and upper item class code to designate the range of item/warehouse combinations to include in this simulation file. If the product and customer group hierarchy levels are not equal to zero, the lower class must be blank and the upper class must be all nines.
Item Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the item group. Maintain Item Grouping short and long description text with Forecast Application Control, FOR100.
Lower Item Group (35,A):	Specify the lower and upper item number to designate the range of item/customer groups to include in this simulation file. Maintain Item Grouping short and long description text with Forecast Application Control, FOR100.

Upper Item Group (35,A):	Specify the lower and upper item number to designate the range of item/customer groups to include in this simulation file. Maintain Item Grouping short and long description text with Forecast Application Control, FOR100.
Customer Group Hierarchy Level (2,0):	To process item/warehouse records, the hierarchy level must be equal to zero. To process high level forecasting, enter the hierarchy level to identify the customer group. Maintain Customer Grouping short and long description text with Forecast Application Control, FOR100.
Lower Customer Group (8,A):	Specify the lower customer group to designate the range for which to copy from forecast to a simulation file. Maintain Customer Grouping short and long description text with Forecast Application Control, FOR100.
Upper Customer Group (8,A):	Specify the upper customer group to designate the range for which to copy from forecast to a simulation file. Maintain Customer Grouping short and long description text with Forecast Application Control, FOR100.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR610D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Copy simulation to forecast, FOR620D

This program allows you to copy item/warehouse simulation data to actual item group/customer group data. This data includes the item/warehouse data, the basis values, and both the forecast and forecast history values. Infor LX replaces the actual data with data from the simulation model.

You can have numerous simulation files on your system. Each file represents a separate set of simulation data and each is identified by a unique filename that is assigned from the FOR610 program. The data copied by the Simulation to Forecast program, FOR620, originates from the simulation model name that you specify. Use the Simulation Selection program, FOR600, to view the available forecasting models or model names.

Simulation files are stored in the Forecast file, JFC/JFI, but they are stored separately from actual forecast data. The Simulation to Forecast program, FOR620 is designed to let you use information that you have adjusted and manipulated through simulation activities in an actual forecast.

Since copying this information can result in a substantial change to the actual forecasting information, you can set up password security for using this program using the Simulation Security Codes Maintenance program, FOR180.

Access: Menu FOR02

Specify selection criteria

Use Copy Simulation to Forecast, FOR620D-01, to specify sets of item group/customer group information to copy from a simulation to a forecast file. The information includes the item group/customer group data, the basis values, and both the forecast and forecast history values.

This screen contains range fields that you use to limit the data the system selects. For information on range fields, see *Ranges* in the overview section of this document.

Field descriptions - FOR620D-01

Fields	Description
Model Name (10,A):	Specify the name of the simulation model that contains the set of forecasts and forecast data that you want to copy to the actual data. Each simulation model is identified by a model name which is assigned from the Copy Forecast to Simulation program, FOR610, when the model file is created.
	Use Enter to replace the actual forecast data that currently exists for those combinations in the Forecasting file, JFC/JFI, with the information for all valid item and warehouse combinations in the specified simulation model.
Security Code (4,A):	Specify a valid password to perform the copy. The system does not display the password when you make the entry. Set up valid passwords with the Simulation Security Codes program, FOR180. The system displays this field displays only if the Security for Copy from Simulation field flag in the Application Control program, FOR100, is set to Y.
Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR620D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Backup simulation, FOR630C

Use Backup Simulation to copy a simulation file to a SAVF or tape. You may want to do this to transfer simulation data from one system to another, from site to site, or to save the data before permanently deleting it from the system.

If you want to view the available forecasting models or model names, access the Simulation Selection program, FOR600.

Access: Menu FOR02

Specify backup

Specify the name of the simulation model that contains forecasts and forecast data to backup and the device to use.

Field descriptions - FOR630-01

Fields	Description
Model Name (10,A):	Specify the name of the simulation model that contains the set of forecasts and forecast data that you want to backup. Each simulation model is identified by a model name which is assigned from the Copy Forecast to Simulation program, FOR610, when the model file is created.
	Use Enter to copy the information for all valid item and warehouse combinations in the specified simulation model to the SAVF or tape located in the device that you specify.
*SAVF or Device (10,A):	Specify *SAVF or the identification code of the device name to which to perform this backup. If you specify *SAVF, press Enter and SYS912D is displayed. Specify the save file name, library and description information. Device names

vary from system to system. Check with your system operator for the code that you should use here.

Run Time Parameter (1,0):	Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR630D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Delete simulation, FOR640D

This program allows you to remove a simulation model from the system. This program physically deletes the information from your forecasting file, JFC/JFI, so use it only if you are sure that you will not need to use this simulation model again. If you think that you may need the simulation model but you still want to remove it from your Forecasting file, create a backup copy of the model by using the Backup Simulation program, FOR630, before executing the Delete Simulation program, FOR640. You cannot reinstate the deleted information unless you have a good backup.

If you want to view the available forecasting models or model names, access the Simulation Selection program, FOR600.

Access: Menu FOR02

Specify model to delete

Use Delete simulation, FOR640D-01, to specify the model to remove from Infor LX.

Field descriptions - FOR640D-01

Fields	Description
Model Name (10,A):	Specify the name of the simulation model to remove from Infor LX. Use Enter to delete the model from the system.

Each simulation model is identified by a model name which is assigned from the Copy Forecast to Simulation program, FOR610, when the model file is created.

Run Time Parameter (1,0): Specify Interactive to process the data in real time or Batch to process the data in the job queue. If you specify interactive processing, your session is unavailable for other tasks until the job finishes.

Screen actions - FOR640D-01

Commands	Description
Standard Screen Actions	All screen actions on this screen perform standard Infor LX functions. See *Generic help text for screen actions (p. 18)* in the overview information in this document.

Appendix A
Glossary

A

Ranges

Ranges refer to fields you can use to limit an inquiry or report or to display specific data. If there are multiple range fields in a program, you can tailor your inquiry or report to produce only the data you need.

Infor LX sorts the information alphanumerically. Therefore, the value in the From field must be a lower alphanumeric value than the value in the To field.

Infor LX usually inserts extreme values as defaults in the lower and upper fields. See the description for Extreme values by default. The entries you make in range fields do not have to be valid values in a database file.

Review the following suggestions to limit the information:

Specify the first value to include on the inquiry or report in the From field. Leave the To field blank to include all information to the end of the file. For example, you can print a report that starts with the customer number you specify in the From field and stops at the end of the Customer Master file.

Specify the last value to include on the inquiry or report in the To field. Leave the From field blank to start at the beginning of the file. For example, you can perform an inquiry that starts with the beginning of the Customer Master file and ends with the customer number you specify in the *To* field.

Specify the same value in both the *From* and *To* fields. For example, you can limit a display to one customer.

To include a group of items, specify a value in the *From* field and another value in the *To* field. For example, you can perform an inquiry that starts with the first of the month and ends with the last day of the month.

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