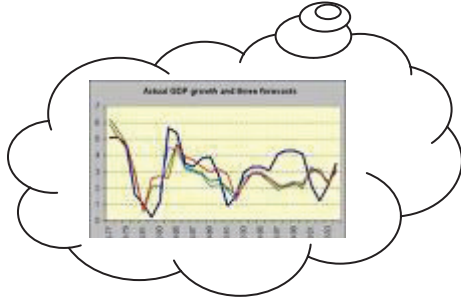


Advanced Forecast

For MAX™ (SQL Server)



Users Manual

Standard Configuration

Advanced Forecast Module

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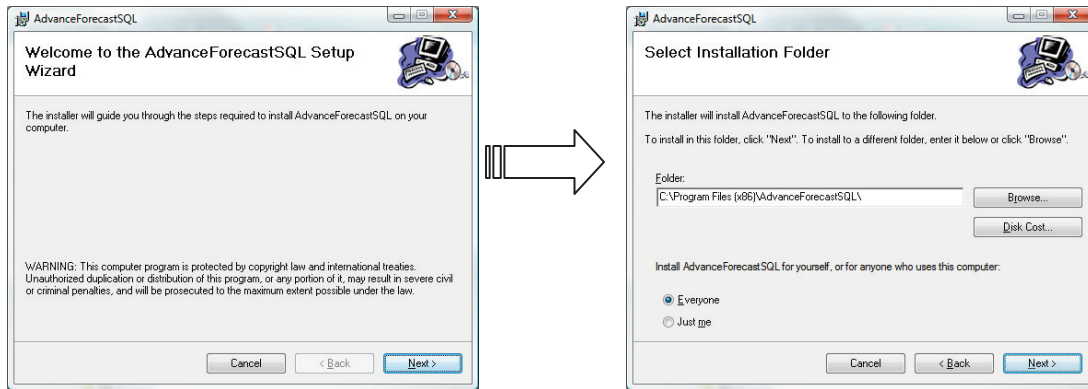
Installation

Requirements:

1. DotNet Framework 3.5
2. MAX Client must be installed on same PC
3. Search path to the \EFW folder within the MAX Client folder.
4. Microsoft Excel
5. Crystal Run Time for DotNet:

http://www.maxtoolkit.com/portalvbvs/mtkapps/CrystalXI_R2/SetupCrystal11_5_Net.msi

Installer: InstallAdvForecast_SQI.MSI



Setup

MAX System Configuration: MAX Switches, set MPS Forecast switch = 'N'

Excel Sheet:

To Update Forecast in database, set cell to 'Y' or 'N'. (Y tells program to read new forecast numbers in from Excel)

| Part No. | Description | Loc | J | F | M | A | M | J | J | A | S | O | N | D | BUCKET TYPE | IncludeForecast | AltaFactor | Association Code | Ref. Ent. | Ctrl/Down/Enter | Custom |
|----------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-----------------|------------|------------------|-----------|-----------------|--------|
| 1000 | Part | 001 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 1 | Y | 1.00000 | | | | |

List all part numbers with location code (all the same if only one location, per MAX data base). Forecast quantities for all months (uses a 12 month rolling forecast), or 0 or blank. Bucket type for each part (how monthly forecast demand is spread over month, see Bucket Type table), and whether to include the current months forecast as nettable demand (Y) or accumulating demand (snowplow demand S), or not (N). Current Year and Next Year (Actual) required.

MAX Forecast sheet in Excel is named 'MAXFC', field ESheet in table ForecastGlobal is set to recognize that name. If not a match an Error 1004 occurs.

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Ensure CY (Cell A1) is set to Current Calendar Year, and NY (Cell A2) is set to Next Calendar Year in the Excel Forecast spreadsheet.

If a new forecast is to be read in from the Excel spreadsheet, set 'Update Forecast' cell (D) to 'Y', else set to 'N' if the currently loaded forecast is to be used. Setting cell to 'N' will cause Forecast module to skip reading Excel file and use forecast already stored in table. (This can be overridden from the main form.)

If the part's first month's forecast is to be ignored, set 'Include First Month' to 'N' for each part. This will cause the first month's forecast for that part to be ignored in the demand process. An 'S' or 'Y' in this column will cause the net forecast for the current month to be accumulated across the remaining month splits. (Affected by FC Cut Off Date).

If an alpha factor is to be used (adjusts monthly forecast up or down), set it > 1 to increase, < 1 to decrease (required). (Retains original and modified in history.)

If using Aggregation (see Section below), set Agg Code, else leave blank. If an extension to the Bucket Description/Year is required, fill in Ref Ext, else leave blank.

If using Drill Down, set Drill Down to 'Y' (by Orders Requirements), F (by Feature Option configured order), B (by BoM), else leave blank. Setup by drill down Part Number, requires Drill Down flag in Forecast ID to be set on.

If using Customer specific Forecasting, enter Customer ID to net against, or common prefix of Customer ID for groups. Change to Stock ID's if using Stock ID netting.

If using Part Specific Sales Order Cutoff dates, enter in SO Cutoff column in date format.

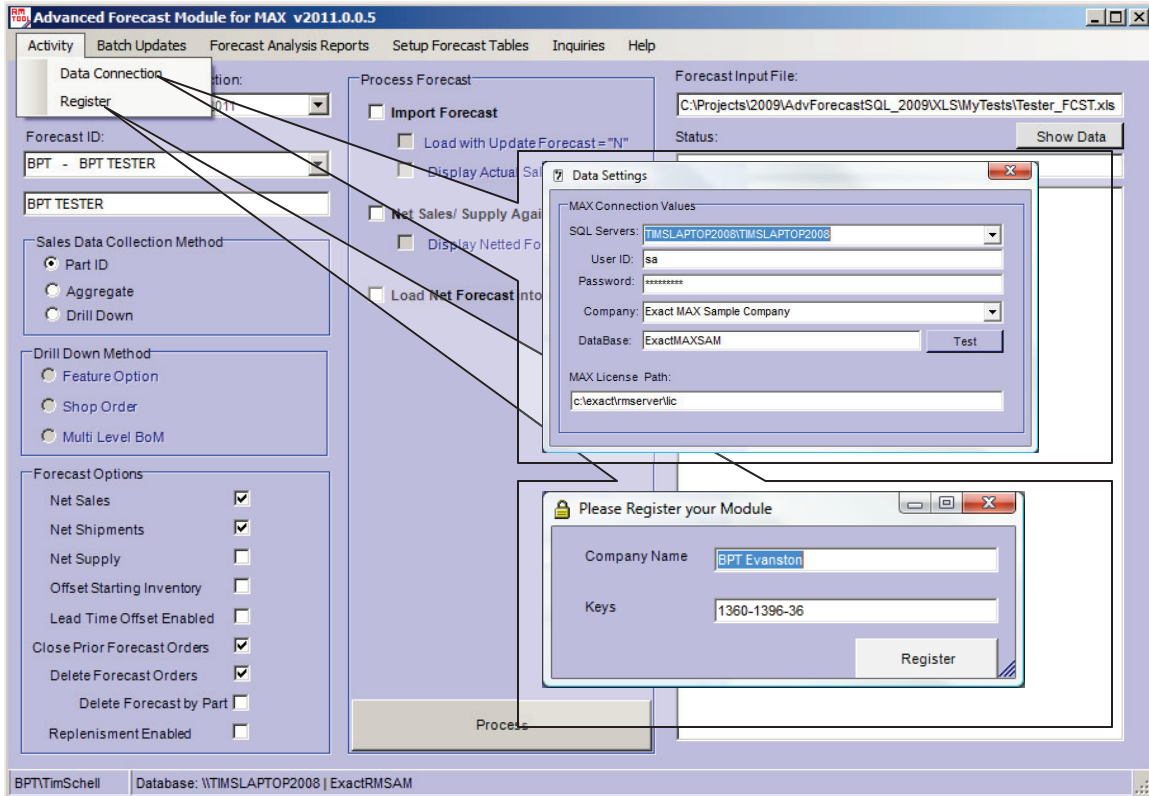
*Ensure last row in Sheet 'MAXFC' has 'END' in Ax. (instead of part number, directly after last part number row). Do not rename sheet.

*Do not add rows or columns to top or beginning of spreadsheet. Do not delete any columns in sheet. If adding more buckets in sheet, make sure they are added to bucket range table as well.

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Startup :

Forecast tables are supplied and default loaded with 2 years bucket range, by calendar month, by calendar year. As well, Excel template is included (program requires the spreadsheet conform to certain rules) for easy inclusion into current Forecast workbook. Crystal reports supplied: Forecast Accuracy and Historical Sales by bucket. First enter the database settings and register the application with the keys provided for your site.



User can run program interactively by clicking on command button, or program can be setup to run automatically as a Windows Scheduler event (parameters set through Excel sheet, cutoff date defaults to start date of current bucket as determined from system clock).

At the start of each year, Historical Update routine must be run to update historical years bucket coding for Forecast and Sales History.

Advanced Forecast Module

Advance Forecast Module:

Set Forecast Order Cut Off Date: This will prevent any individual Forecast orders from being loaded that have due dates before the cut-off date, and is used for First Month forecast orders in combination with 'Include First Month' = 'S' to tell system to add individual forecast order quantities in the first month for FC orders that are before the cutoff date (will not be loaded) to those in the first month that are at or after the cutoff date (snowplowing demand for month.)

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Setup Forecast Tables:

Bucket Ranges:

| Bucket_Code | Description | Start_Date | End_Date | AH_Code | FYear | BT2 | BT3 | BT4 |
|-------------|-------------|------------|-----------|-------------------------------------|-------|-----------|-----------|-----------|
| 1 | WK-001 | 1/4/2010 | 1/10/2010 | <input checked="" type="checkbox"/> | 2010 | 1/10/2010 | 1/17/2010 | 1/24/2010 |
| 2 | WK-002 | 1/11/2010 | 1/17/2010 | <input checked="" type="checkbox"/> | 2010 | 1/17/2010 | 1/24/2010 | 1/31/2010 |
| 3 | WK-003 | 1/18/2010 | 1/24/2010 | <input checked="" type="checkbox"/> | 2010 | 1/24/2010 | 1/31/2010 | 2/7/2010 |
| 4 | WK-004 | 1/25/2010 | 1/31/2010 | <input checked="" type="checkbox"/> | 2010 | 1/31/2010 | 2/7/2010 | 2/14/2010 |
| 5 | WK-005 | 2/1/2010 | 2/7/2010 | <input checked="" type="checkbox"/> | 2010 | 2/7/2010 | 2/14/2010 | 2/21/2010 |
| 6 | WK-006 | 2/8/2010 | 2/14/2010 | <input checked="" type="checkbox"/> | 2010 | 2/14/2010 | 2/21/2010 | 2/28/2010 |
| 7 | WK-007 | 2/15/2010 | 2/21/2010 | <input checked="" type="checkbox"/> | 2010 | 2/21/2010 | 2/28/2010 | 3/7/2010 |
| 8 | WK-008 | 2/22/2010 | 2/28/2010 | <input checked="" type="checkbox"/> | 2010 | 2/28/2010 | 3/7/2010 | 3/14/2010 |
| 9 | WK-009 | 3/1/2010 | 3/7/2010 | <input checked="" type="checkbox"/> | 2010 | 3/7/2010 | 3/14/2010 | 3/21/2010 |
| 10 | WK-010 | 3/8/2010 | 3/14/2010 | <input checked="" type="checkbox"/> | 2010 | 3/14/2010 | 3/21/2010 | 3/28/2010 |

All months or weeks that exist in the Forecast spreadsheet, with start and end dates, bucket codes (1- #periods), description, fiscal year. Set A/H Code to "True" for past months. Bucket Range 1 = First Month in Fiscal Year = First Quantity Column (column3) in Excel template. #Periods must = buckets on excel sheet. Other dates in bucket range can be auto calculated from start and end dates, and then manually adjusted to exact dates. Set # buckets to number in table (must match # in Excel), set # buckets per fiscal year.

Monthly: Set A/H Code to True for past bucket.

Reset Year: enter the current year and hit "Reset Year" button to automatically adjust the years in the bucket date fields.
 Do next year first, then current year. Change FYear to new current and next. Set AH to False. Run "Recalculate Bucket Range Dates" to calculate new BT2 to BTM dates.

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Forecast ID:

1. Forecast ID - matches spreadsheet location.
2. Description
3. Sales Data Collection Method:
 - a. By Part (default)
 - b. Aggregate
 - c. Drill Down
 - i. F=Feature/Option
 - ii. Y= Shop Order
 - iii. B=Multi-Level BOM
4. Net Sales - determines whether sales backlog is netted against forecast.
5. Close forecast orders which are due prior to selected cut-off date.
6. Net Shipments – Nets shipments against forecast
7. Net Supply – (Repetitive)
8. Offset Starting Inventory - net starting inventory.
9. Lead Time Offset - offset the due/ship dates from the parent Sales Order for drill down forecasted items using the parent parts critical path value in Part Sales.
10. Delete Forecast – delete existing forecast
 - a. Delete by Part based on input
11. Replenishment Enabled – allow for replenishment when below Stock ID ROP levels.

Bucket Types:

| Type | Description |
|------|-------------------------|
| 1 | First of Month |
| 2 | End of Month |
| 3 | 1st, 3rd Week of Month |
| 4 | 2nd, 4th Week of Month |
| 5 | Middle of Month |
| 6 | Weekly Split of Month |
| 7 | Daily Split Over Bucket |

Read only, 7 types which determine how to split netted forecast for bucket. 6 – Will split forecast by week, starting on Start Date of Bucket, using the BT dates for weeks 2, 3, 4, 5 (if applicable).

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Customers:

| Customers | |
|-------------|--------------------|
| Cust ID | Description |
| ACMEPRO_001 | Acme Products |
| ZENITHFAB | ZENITH FABRICATING |
| * | |

Customers: Enter Customers you want to include or exclude in Forecast calculations. See Customers Include/Exclude.

1. Fiscal parameters: Years and month offsets.
2. Days in work week.
3. Number of Features if using Feature/Options
4. Include/ Exclude Options
 - 0 – N/A
 - 1 – Include
 - 2 – Exclude
 - 3 - By Customer
 - 4 – By Stock ID
5. Forecast Cut Off

Global Parameters:

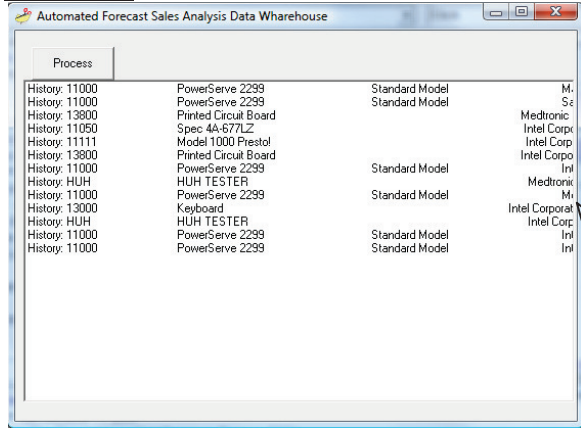
Customers Include/Exclude:

0- Will not use Customer Include/Exclude
 1- Include Customers: Only Sales Orders for these customers will be included in Netting
 2 – Exclude Customers: Sales Orders for these Customers will NOT be included in Netting
 3 – Customer Specific: Only Sales Orders for that Customer or Customer Group will be netted.
 4 – Stock ID: Sales Orders will be netted by their Ship From Stock ID on Sales Order.

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Batch Updates:

AutoFCA



The screenshot shows a window titled "Automated Forecast Sales Analysis Data Warehouse". It contains a table with the following data:

| Process | | | |
|----------------|-----------------------|----------------|----------------|
| History: 11000 | PowerServe 2239 | Standard Model | M. |
| History: 11000 | PowerServe 2239 | Standard Model | Sz |
| History: 13800 | Printed Circuit Board | | Medtronic |
| History: 11050 | Spec 4A-677LZ | | Intel Corp |
| History: 11111 | Model 1000 Prestol | | Intel Corp |
| History: 13800 | Printed Circuit Board | | Intel Corp |
| History: 11000 | PowerServe 2239 | Standard Model | Int |
| History: HUH | HUH TESTER | | Medtronic |
| History: 11000 | PowerServe 2239 | Standard Model | M. |
| History: 13000 | Keyboard | | Intel Corporat |
| History: HUH | HUH TESTER | | Intel Corp |
| History: 11000 | PowerServe 2239 | Standard Model | Int |
| History: 11000 | PowerServe 2239 | Standard Model | Int |

This process loads historical sales data into archive tables by part, commodity code, product line, customer type, and bucket. This history data can be used for analysis of sales by bucket and forecast accuracy.

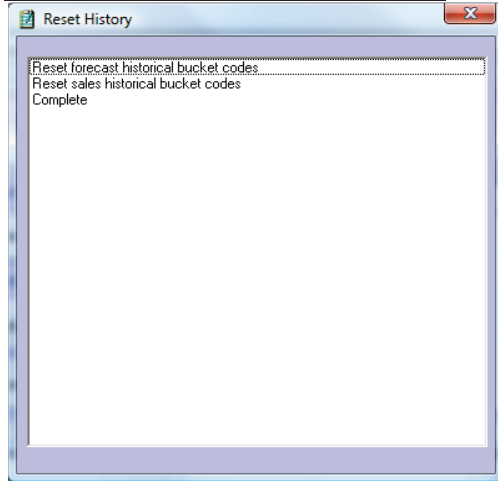
This function which will collect Invoice and Open Order data from MAX, sort and code it, and store it the Forecast tables (AutoFCA). This data can then be used to analyze Forecast vs. Actuals, as well as sales trends for different user defined groupings. Custom queries and reports can be written against the data tables. The program is designed to be run nightly through Windows Scheduler.

Available Codes to Group by in MAX :

- Part
- Bucket Code (historical years adjusted to Range 1-12)
- Location (Forecast ID)
- Forecast Add Date
- Customer Type
- Territory
- Sales Category
- SO Detail or Invoice UDFKey
- Aggregation Code (if Agg Code set to Yes in Location Table)
- Product Line
- Customer
- Customer Master UDFKey
- Sales Order Reason code
- SO Detail or Invoice UDFRef or Reference
- SO Master UDF Key or Reference
- Part Com Code, Planner ID, Buyer ID

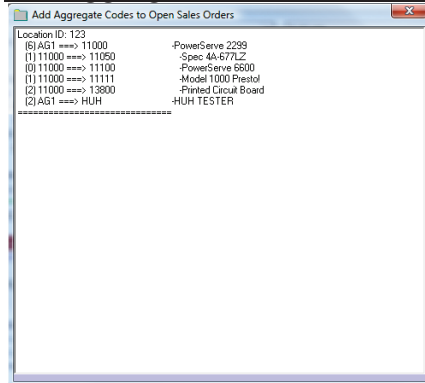
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Reset Historical Bucket Codes:



Reset Historical Bucket Codes. This is only required at year end. Make sure that Current and Next years have been updated in Global Parameters before proceeding.

Set Aggregate Codes in Sales Order Details:



This process will update open Sales Orders and Orders with Ship Dates on or after the entered cutoff date with the Aggregate codes defined in Part Sales UDFKEY_29.

This process is only needed if using the Aggregation.

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Operating Procedures:

1. Ensure Excel Forecast file is up to date and is **not open**.
2. Setting Update Forecast cell to 'Y' will tell program to read in new forecast numbers from Excel; to 'N' will use current in Forecast table, skipping Excel sheet.
3. Start MAX NetForecast from Programs/MAX NetForecast
4. Select Cutoff Date for Forecast generation (Start date of first Bucket in currently requested range)
5. Default enabled button is 'Forecast and Sales Input', hit enter or click button. Forecast (Phase 1), and Sales (Phase 2), will be read, sorted, and stored. Optional Report on Actual Sales by bucket may be selected.
6. When complete, hourglass will stop, enabled button will advance to 'Generate Net Forecast'
7. Enter or click current button. Forecast and Sales will be netted, output table for MAX will be generated. Optional Report on Netted Forecast by bucket may be selected.
8. Program will then load netted forecast orders directly into MAX, deleting current Forecast orders in MAX before adding in new ones (depending on Delete Forecast setting for Company).
9. When hourglass stops, program is complete. Message box will appear to tell user process is complete. Any abnormal conditions encountered during runtime will be noted.
10. To run from command line in Windows Scheduler: Setup command line path to AdvForecast_SQL.exe, followed by '/AUTO'.

E.g. **'C:\Program Files\AdvanceForecastSQL\AdvForecast SQL.exe /AUTO**

Functions

- Program will read from any Excel spreadsheet (include and setup supplied Worksheet template by importing it into your forecasting workbook)
- Buckets can be setup for standard months, fiscal months, or other periods, as user can set start and end period for each bucket.
- User can split monthly net forecast demand over month any of six ways (see Setup)
- Program will consume both booked sales orders and shipped sales order for the bucket periods. If sales exceeds forecast, actual sales will drive production
- Program archives previous forecast records, allowing for historical reporting of sales vs. forecast, forecast accuracy, and the use of forecasting tools to more accurately determine future forecasts, down to the part level. Parts can also be aggregated by using the UDFKEY field in Part Sales (See Aggregation section)

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- Program available which will copy Sales Order Line Delivery and Forecast order numbers automatically to all orders, allowing direct linkage of planned supply orders to the demand which created them thru the reference field. (See Planned Orders by Reference report in MRP module).

Aggregation

Aggregation allows the user to net the sum of sales orders for a group of parts against the Forecast for a single “master” part in MAX (Used for product line or configured parts forecasting).

In order to utilize this functionality, the following must be setup:

- Aggregation flag set by Forecast ID
- All specific parts to be included in group must have their Agg Code set in Part Sales, UDFKEY field. ‘Master’ part number must exist in MAX (Part Master and Part Sales).
- Agg Code in Excel sheet must be set for all Forecast ‘master’ parts
- Run the Batch / Update Aggregate Codes in Sales Orders before processing forecasts. This routine will add Agg Codes to the UDFKEY_28 of Sales Order Details for netting.

Drill Down

Drill Down allows the user to net sales of component parts (sales of parent item are searched for specified components), for Forecasting at below Top level items.

In order to utilize this functionality, the following must be setup:

- Drill Down flag selected by Forecast ID
- Drill Method selected by Forecast ID

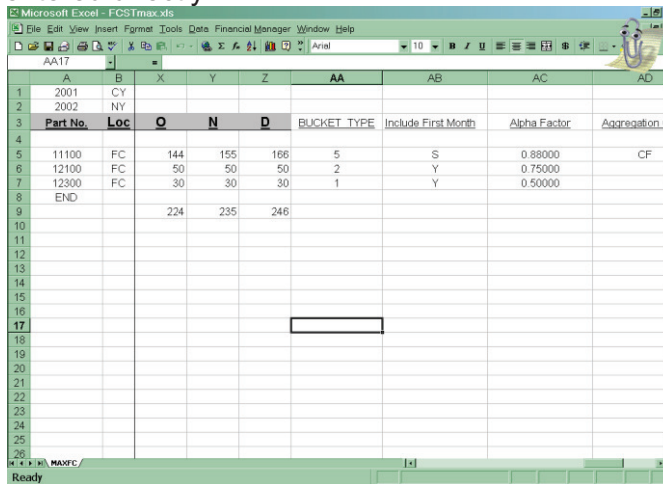
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Processing:

The MAX Forecasting module allows the user to net outstanding sales and shipments in MAX against a Forecast, by user defined buckets (commonly a month). This net Forecast is then loaded into MAX to drive demand through MRP for future requirements. Since only a NET forecast is loaded, this eliminates duplicate demand in MAX for the specified periods. If Sales exceed the Forecast in the bucket, no forecast orders are loaded for that bucket. Program will also not net sales on same day as Forecast orders are scheduled, as MRP function in MAX will net demand orders scheduled on the same day. This prevents double netting.

The previous forecast is deleted automatically in MAX when the new forecast is loaded, meaning only the current forecast contributes to the demand in MRP. The cutoff date for the first bucket in the current range is determined by the user when the program is run, and the program will net and generate forecast orders 12 bucket periods out from the first bucket. Historical data for forecasts and sales is archived in separate tables for later analysis.

- Forecast numbers are entered in Excel. (See Forecast template worksheet)
Data can be imported into current Excel forecasting workbook using link cells or entered directly.



The screenshot shows a Microsoft Excel spreadsheet titled "FCSTmax.xls". The spreadsheet has columns labeled A through AD. The data is organized as follows:

| Part No. | Loc | Q | N | D | BUCKET TYPE | Include First Month | Alpha Factor | Aggregation |
|----------|-----|-----|-----|-----|-------------|---------------------|--------------|-------------|
| 11100 | FC | 144 | 155 | 166 | 5 | S | 0.88000 | CF |
| 12100 | FC | 50 | 50 | 50 | 2 | Y | 0.75000 | |
| 12300 | FC | 30 | 30 | 30 | 1 | Y | 0.50000 | |
| END | | | | | | | | |
| | | 224 | 235 | 246 | | | | |

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- Forecasting buckets are user defined, with a start and end date. This allows user definition of months and bucket size (recommend monthly buckets, as smaller increments are less accurate). The first month of the year is defined by setting monthly offsets in global table. User sets how many buckets are used, and how many buckets per fiscal year.

| Bucket_Code | Description | Start_Date | End_Date | AH_Code | FYear | BT2 | BT3 | BT4 |
|-------------|-------------|------------|------------|-------------------------------------|-------|-----------|------------|------------|
| 1 | MO-001 | 1/1/2010 | 1/31/2010 | <input checked="" type="checkbox"/> | 2010 | 1/7/2010 | 1/14/2010 | 1/21/2010 |
| 2 | MO-002 | 2/1/2010 | 2/28/2010 | <input checked="" type="checkbox"/> | 2010 | 2/7/2010 | 2/14/2010 | 2/21/2010 |
| 3 | MO-003 | 3/1/2010 | 3/31/2010 | <input checked="" type="checkbox"/> | 2010 | 3/7/2010 | 3/14/2010 | 3/21/2010 |
| 4 | MO-004 | 4/1/2010 | 4/30/2010 | <input checked="" type="checkbox"/> | 2010 | 4/7/2010 | 4/14/2010 | 4/21/2010 |
| 5 | MO-005 | 5/1/2010 | 5/31/2010 | <input checked="" type="checkbox"/> | 2010 | 5/7/2010 | 5/14/2010 | 5/21/2010 |
| 6 | MO-006 | 6/1/2010 | 6/30/2010 | <input checked="" type="checkbox"/> | 2010 | 6/7/2010 | 6/14/2010 | 6/21/2010 |
| 7 | MO-007 | 7/1/2010 | 7/31/2010 | <input type="checkbox"/> | 2010 | 7/7/2010 | 7/14/2010 | 7/21/2010 |
| 8 | MO-008 | 8/1/2010 | 8/31/2010 | <input type="checkbox"/> | 2010 | 8/7/2010 | 8/14/2010 | 8/21/2010 |
| 9 | MO-009 | 9/1/2010 | 9/30/2010 | <input type="checkbox"/> | 2010 | 9/7/2010 | 9/14/2010 | 9/21/2010 |
| 10 | MO-010 | 10/1/2010 | 10/31/2010 | <input type="checkbox"/> | 2010 | 10/7/2010 | 10/14/2010 | 10/21/2010 |

- Forecast orders can be loaded one of seven ways (set by user in Excel) :
 - First day of bucket
 - Last day of bucket
 - Middle of bucket
 - 1st, 3rd week of bucket
 - 2nd, 4th week of bucket
 - Quarterly over the bucket
 - Weekly buckets, evenly split over work days
- Set Forecast Order Cut Off Date : Date can be set each time the forecast netting is run. This will prevent any individual Forecast orders from being loaded that have due dates before the cut off date (See Bucket Type). It is also used for First Month forecast orders in combination with 'Include First Month' = 'S' to tell system to add individual forecast order quantities in the first month for FC orders that are before the cutoff date (will not be loaded) to those in the first month that are at or after the cutoff date (snowplowing demand for month, for weekly or bi-weekly).
- Sales Orders can be excluded from the netting process by entry date, by location or by part.
- Forecast and sales orders can be included or excluded by Customer. For Include logic the user enters forecasts by parts only for selected customers, and only sales from those customers are netted. Exclude logic is used when MAX contains forecast records from another source (such as EDI), and Advanced Forecast will not include sales from these customers. Forecast orders for these customers (as identified in the UDFKEY field on the order) will not be cleared. Customer specific logic uses the Customer ID in the Cust ID column from excel to only net sales for that customer

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| Table - dbo.Cust...KM_ForecastGlobal Summary | | | | | | |
|---|--------|------|------|-----------|-----------|--|
| Excelpath | wsname | CFY | NFY | cymoffset | nymoffset | |
| C:\Projects_2007\AKM\Forecast\Code\XLS\Tester_FCSTmax.xls | MAXFC | 2008 | 2009 | 2 | 14 | |
| NULL | NULL | NULL | NULL | NULL | NULL | |

- The user can select to include the current month forecast or not (set in Excel, by part), in order to prevent over ordering for months which are underselling. Not including current month removes current month forecast from demand equation.
- User can enter Alpha code in Excel, allowing the user to adjust the forecast numbers by part up or down from the official forecast. A Beta code can also be setup by month in the bucket range table, allowing the user to adjust the numbers by month. This allows for a net forecast number to be modified by part and by month. (Useful for forecast variances caused by promotional activity, seasonality, etc.)
- User can select (in Excel), whether to load a new forecast from Excel or simply net the current forecast (in Forecast table), against sales. This allows for forecast records to be added only when a significant change takes place in the forecast, but a netted forecast to be generated as often as required as daily sales accumulate throughout the periods(s). Forecast records are coded with an Add date and time. Program sets sheet to 'N' (use current Forecast) automatically after each read.

| Part | Due_Date | FC_Year | Loc | FFCqnt | FCQnt | Qnt1 | Qnt2 | Qnt3 |
|-------|-----------------------|---------|-----|--------|-------|------|------|------|
| 11100 | 5/1/2008 12:00:00 AM | 2008 | 1 | 56 | 49 | 0 | 0 | 49 |
| 11100 | 6/1/2008 12:00:00 AM | 2008 | 1 | 23 | 20 | 0 | 0 | 20 |
| 11100 | 7/1/2008 12:00:00 AM | 2008 | 1 | 12 | 11 | 0 | 0 | 11 |
| 11100 | 8/1/2008 12:00:00 AM | 2008 | 1 | 11 | 10 | 0 | 0 | 10 |
| 11100 | 9/1/2008 12:00:00 AM | 2008 | 1 | 33 | 29 | 0 | 0 | 29 |
| 11100 | 10/1/2008 12:00:00 AM | 2008 | 1 | 24 | 21 | 0 | 0 | 21 |
| 11100 | 11/1/2008 12:00:00 AM | 2008 | 1 | 45 | 40 | 0 | 0 | 40 |
| 11100 | 12/1/2008 12:00:00 AM | 2008 | 1 | 44 | 39 | 0 | 0 | 39 |
| 11100 | 1/1/2009 12:00:00 AM | 2009 | 1 | 55 | 48 | 0 | 0 | 48 |
| 12100 | 1/1/2008 12:00:00 AM | 2008 | 1 | 50 | 38 | 38 | 0 | 0 |
| 12100 | 2/1/2008 12:00:00 AM | 2008 | 1 | 60 | 45 | 45 | 0 | 0 |
| 12100 | 3/1/2008 12:00:00 AM | 2008 | 1 | 50 | 38 | 38 | 0 | 0 |
| 12100 | 4/1/2008 12:00:00 AM | 2008 | 1 | 50 | 38 | 38 | 0 | 0 |

- The program will store previous forecast records in a history table (automatically), allowing the user to analyze and report on historical forecast data. This includes the official forecast and actual forecast (after Alpha and Beta codes applied). Available Codes to Group by in MAX :
 1. Part
 2. Bucket Code (historical years adjusted to Range 1-12)
 3. Location
 4. Forecast Add Date
 5. Customer Type
 6. Territory
 7. Sales Category
 8. SO Detail or Invoice UDFKey
 9. Aggregation Code
 10. Product Line
 11. Customer Master UDFKey
 12. Sales Order Reason code
 13. SO Detail or Invoice UDFRef or Reference
 14. SO Header or Invoice Header UDF Key or Reference
 15. Part Commodity Code, Planner ID, Buyer ID
- The program will also aggregate part sales against a forecast, allowing for the netting of sales against a product group or planning bill forecast. This is especially useful for forecasting demand by product group (more accurate than

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individual parts), or for configured items (actual sales can be netted against family planning bill). This requires running the batch process, "Update Aggregate Codes in sales Orders" and requires linking parts to family or group through Part Sales UDFKey.

- Forecasts put Bucket Description/Year into reference field for traceability. Excel column Ref Ext can hold an additional 10 characters to refine reference field grouping.
- Program has Drill Down capability: the ability to forecast and net sales for parts one level down from the main part on the sales order (for make to order and configured orders, requires link from Sales Order to Mfg Order through Make to Order MAX functionality). Can be selected by part in spreadsheet, mutually exclusive with Aggregation. If using Drill Down, set Drill Down to 'Y' (by Orders Requirements), F (by Feature Option configured order), B (by BoM), else leave blank. By Part Number, requires Drill Down flag in Forecast ID to be set.

At the start of each year, Historical Update routine must be run to update historical years bucket coding for Forecast and Sales History.

Audit Reports:

Sales Quantities by Part and Bucket:

Run as an option when initially reading the forecast spreadsheet:

| Sales Quantities by Part v.s. Bucket Code | | | | |
|---|-------|--------|--------|--------|
| Part | 1 | 2 | 3 | Total |
| 11000 | 16.00 | 200.00 | 200.00 | 416.00 |
| HUH | 0.00 | 200.00 | 0.00 | 200.00 |
| Total | 16.00 | 400.00 | 200.00 | 616.00 |

2/19/2008

Netted Forecast Quantities by Part and Bucket:

Run as an option when netting the forecast.

| Netted Forecast Quantities by Part v.s. Bucket | | | | | | | | | | |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|--------|
| Part | 1/1/1990 | 1/1/2008 | 2/1/2008 | 3/1/2008 | 4/1/2008 | 5/1/2008 | 6/1/2008 | 7/1/2008 | 8/1/2008 | |
| 11000 | 0.00 | 0.00 | 3,000.00 | 600.00 | 400.00 | 56.00 | 23.00 | 12.00 | | 11.00 |
| 11150 | 0.00 | 264.00 | 440.00 | 792.00 | 0.00 | 0.00 | 0.00 | 499.00 | | 0.00 |
| 13000 | 0.00 | 150.00 | 300.00 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 |
| HUH | 0.00 | 0.00 | 20.00 | 30.00 | 40.00 | 50.00 | 40.00 | 12.00 | | 10.00 |
| L1 | 0.00 | 200.00 | 200.00 | 600.00 | 100.00 | 190.00 | 200.00 | 300.00 | | 100.00 |
| Total | 0.00 | 614.00 | 3,960.00 | 2,622.00 | 540.00 | 296.00 | 263.00 | 823.00 | | 121.00 |

2/19/2008

Advanced Forecast Module

Inquiries:

Forecast Summary:

Shows the forecast information before it is loaded into MAX.

Forecast Summary

Location ID: BPT_DD-DRILL DOWN CONFIGURED

Part ID: 11111

| FCYear | DueDate | FFCQnt | FCQnt | Qnt1 | Qnt2 | Qnt3 | Qnt4 |
|--------|-----------|--------|--------|------|------|--------|------|
| 2010 | 4/1/2010 | 110.00 | 110.00 | 0.00 | 0.00 | 93.00 | |
| 2010 | 5/1/2010 | 55.00 | 55.00 | 0.00 | 0.00 | 52.00 | |
| 2010 | 6/1/2010 | 120.00 | 120.00 | 0.00 | 0.00 | 120.00 | |
| 2010 | 7/1/2010 | 60.00 | 60.00 | 0.00 | 0.00 | 60.00 | |
| 2010 | 8/1/2010 | 130.00 | 130.00 | 0.00 | 0.00 | 130.00 | |
| 2010 | 9/1/2010 | 75.00 | 75.00 | 0.00 | 0.00 | 75.00 | |
| 2010 | 11/1/2010 | 25.00 | 25.00 | 0.00 | 0.00 | 25.00 | |
| 2010 | 12/1/2010 | 150.00 | 150.00 | 0.00 | 0.00 | 150.00 | |
| 2011 | 1/1/2011 | 100.00 | 100.00 | 0.00 | 0.00 | 100.00 | |
| 2011 | 2/1/2011 | 35.00 | 35.00 | 0.00 | 0.00 | 35.00 | |
| 2011 | 3/1/2011 | 39.00 | 39.00 | 0.00 | 0.00 | 39.00 | |
| 2011 | 4/1/2011 | 43.00 | 43.00 | 0.00 | 0.00 | 43.00 | |
| 2011 | 5/1/2011 | 47.00 | 47.00 | 0.00 | 0.00 | 47.00 | |
| 2011 | 6/1/2011 | 52.00 | 52.00 | 0.00 | 0.00 | 52.00 | |
| 2011 | 7/1/2011 | 57.00 | 57.00 | 0.00 | 0.00 | 57.00 | |
| 2011 | 8/1/2011 | 63.00 | 63.00 | 0.00 | 0.00 | 63.00 | |

MRP:

Details:

MRP Inquiry

Part ID: 13001
 Description1: Midnight Black Keyboard
 Description2:
 Part Type: B - Normal MRP Pur. part
 Min. Order Qty: 0
 Safety Stock: 0
 Max. Order Qty: 0
 Reorder Point: 0
 Order Qty Multiple: 0
 Reorder Qty: 0
 Curr Available Stock: -114
 Plan Available Stock: -93
 Date Range: All Dates

Options:
 MRP Need Date
 PO Due Date
 Include Planned Orders
 Include Non-Nettable
 Specific Stock ID:
 Firm Plan
 Schedule Flag
 MRP Flag
 Q - Queue

| Reference | Order | Type | ST | Qty | Available | ATP | ATF | Date | Qty | Type | ST | Order | Firm | R |
|-----------|-------------------|----------|----|-------|-----------|---------|--------|-----------|------------|------|----|----------|--------------------------|---|
| | 30000033 | RQ | 3 | 10.00 | -10.00 | -10.00 | -10.00 | 2/10/2010 | 0.00 | | | | <input type="checkbox"/> | |
| | | | | | 0.00 | 0.00 | 0.00 | 2/10/2010 | 10.00 | PL | 1 | 40001830 | <input type="checkbox"/> | |
| | 30000041 | RQ | 3 | 11.00 | -11.00 | -11.00 | -11.00 | 2/16/2010 | 0.00 | | | | <input type="checkbox"/> | |
| | | | | | 0.00 | 0.00 | 0.00 | 2/16/2010 | 11.00 | PL | 1 | 40001831 | <input type="checkbox"/> | |
| | 2010Apr-CFG-TEST | 10000002 | FC | 3 | 93.00 | -93.00 | 0.00 | -93.00 | 4/15/2010 | 0.00 | | | <input type="checkbox"/> | |
| | >LEAD TIME 0 Days | | | | | | | | | | | | | |
| | 2010May-CFG-TEST | 10000022 | FC | 3 | 52.00 | -145.00 | 0.00 | -145.00 | 5/16/2010 | 0.00 | | | <input type="checkbox"/> | |
| | 2010Jun-CFG-TEST | 10000042 | FC | 3 | 120.00 | -265.00 | 0.00 | -265.00 | 6/15/2010 | 0.00 | | | <input type="checkbox"/> | |
| | 2010Jul-CFG-TEST | 10000062 | FC | 3 | 60.00 | -325.00 | 0.00 | -325.00 | 7/16/2010 | 0.00 | | | <input type="checkbox"/> | |
| | 2010Aug-CFG-TEST | 10000082 | FC | 3 | 130.00 | -455.00 | 0.00 | -455.00 | 8/16/2010 | 0.00 | | | <input type="checkbox"/> | |
| | 2010Sep-CFG-TEST | 10000102 | FC | 3 | 75.00 | -530.00 | 0.00 | -530.00 | 9/15/2010 | 0.00 | | | <input type="checkbox"/> | |
| | 2010Nov-CFG-TEST | 10000282 | FC | 3 | 25.00 | -555.00 | 0.00 | -555.00 | 11/15/2010 | 0.00 | | | <input type="checkbox"/> | |

BPT\Timschell
 MAX: TIMSLAPTOP2008 | ExactRMSAM

Advanced Forecast Module

Summary:

MRP Inquiry Summary window showing a data table with columns for dates from 5/5/2010 to 5/11/2010 and rows for Forecast Demand, Customer Demand, Dependent Demand, Total Demand, Projected Supply, Planned Scrap, Net Available, Planned Orders, Available to Promise, and Available to Forecast.

| Grouping | Past Due | 5/5/2010 | 5/6/2010 | 5/7/2010 | 5/8/2010 | 5/9/2010 | 5/10/2010 | 5/11/2010 |
|-----------------------|----------|----------|----------|----------|----------|----------|-----------|-----------|
| Forecast Demand | 93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Customer Demand | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dependent Demand | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Demand | 114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Projected Supply | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Planned Scrap | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Net Available | -114 | -114 | -114 | -114 | -114 | -114 | -114 | -114 |
| Planned Orders | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Available to Promise | -21 | -21 | -21 | -21 | -21 | -21 | -21 | -21 |
| Available to Forecast | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

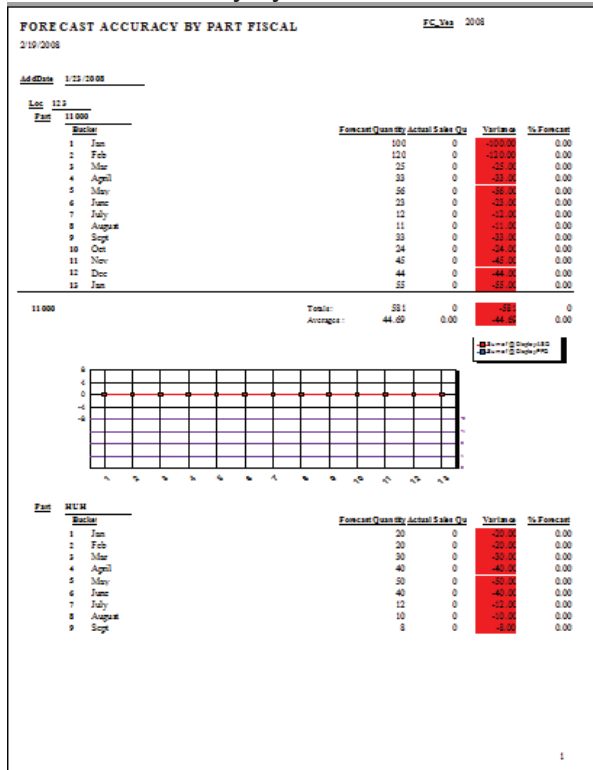
MRP Reports: Details:

MRP Inquiry Details window showing a Crystal Reports preview of an MRP Detail report for Part 13001, Midnight Black Keyboard. The report includes a table with columns for dates and quantities, and a 'SUPPLY' section.

| Date | Quantity | Source |
|-----------|----------|----------|
| 5/5/2010 | 93 | Forecast |
| 5/6/2010 | 0 | Forecast |
| 5/7/2010 | 0 | Forecast |
| 5/8/2010 | 0 | Forecast |
| 5/9/2010 | 0 | Forecast |
| 5/10/2010 | 0 | Forecast |
| 5/11/2010 | 0 | Forecast |

Advanced Forecast Module

Forecast Accuracy by Part:



1. Forecast Historical by Part:

