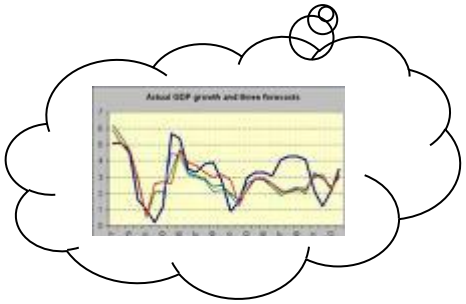
Advanced Forecast version 2016

For MAX ™



Users Manual

Standard Configuration

Publication Date

October 25, 2016

Contents

Purpose:
This application provides the ability to load forecast orders into MAX from spreadsheets or select from an external source such as an Avercast database.

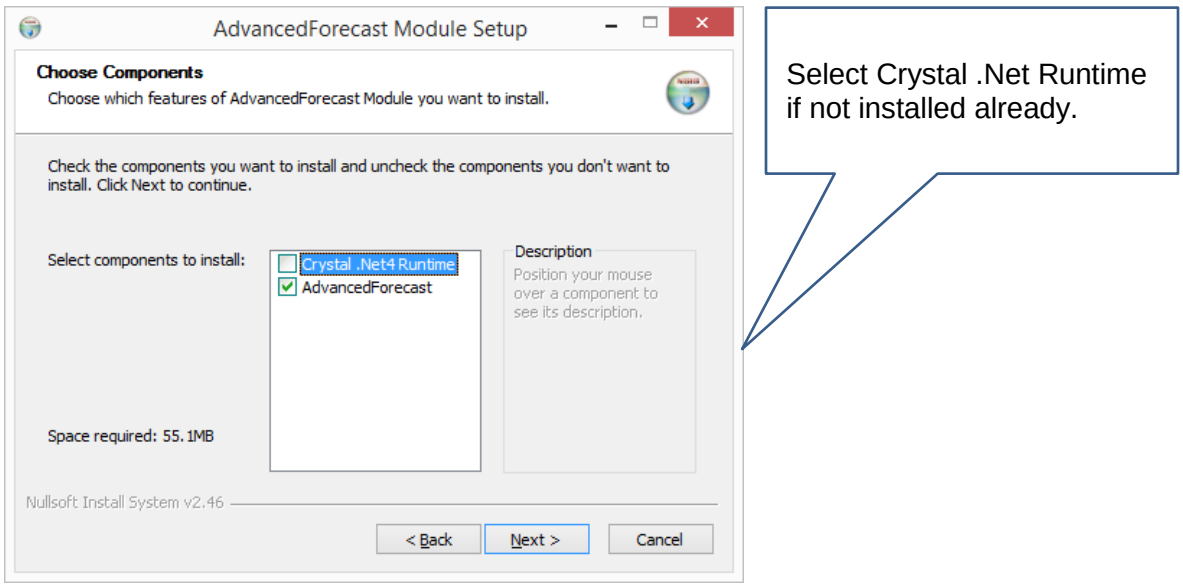
Sales order backlog and shipments can be netted against a Forecast by user defined buckets (commonly a month). This net Forecast is then loaded into MAX to drive demand through MRP for future requirements. Since only a NET forecast is loaded, duplicate demand in MAX is prevented for the specified periods. If Sales exceed the Forecast in the bucket, no forecast orders are loaded for that bucket. The previous forecast can be deleted or closed automatically in MAX when the new forecast is loaded. The cutoff date for the first bucket in the current range is determined by the user when the program is run, net forecast orders will be generated for the requested bucket periods into the future starting from the first bucket.

Requirements:

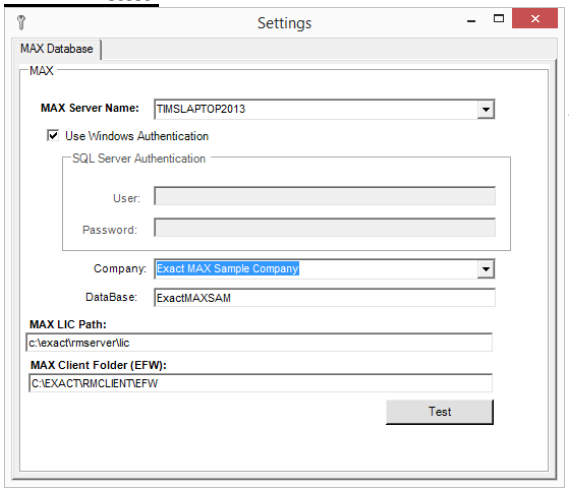
1) The SQL server name has to be the same name used to create the license hash.
2) We need to have 2 DLL's copied from MAX client folder into the application folder. The application tries to copy them if missing or old but sometimes is prevented and they will need to be manually copied:
    a. C:\exact\rmclient\efw\ERMRemCl.dll
    b. C:\exact\rmclient\efw\ EXACTRMEnc.dll
3) Make sure the MAX client runs on same PC. If MAX has an issue the application will also.
4) Sometimes 2 MAX DLL's need to be registered:
    a. C:\exact\rmclient\efw\EXACTRMDEV.DLL
    b. C:\exact\rmclient\efw\MAXUPDATEXML.DLL
5) The user referenced in the Data Settings needs read access to the EXACTMAX database
6) DotNet Framework version 4(Full) or newer

Installation:

Run InstallAdvForecast.exe and follow the prompts:



MAX Data:

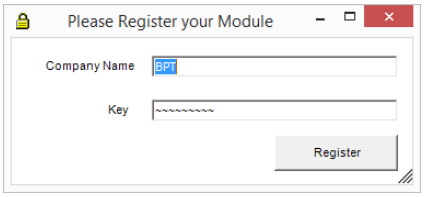


Enter the MAX server, credentials, license path and MAX client path.

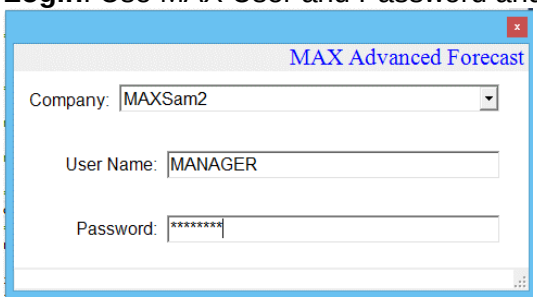
The user needs access to the "EXACTMAX" database for read rights only.

Register:

Name and key provided

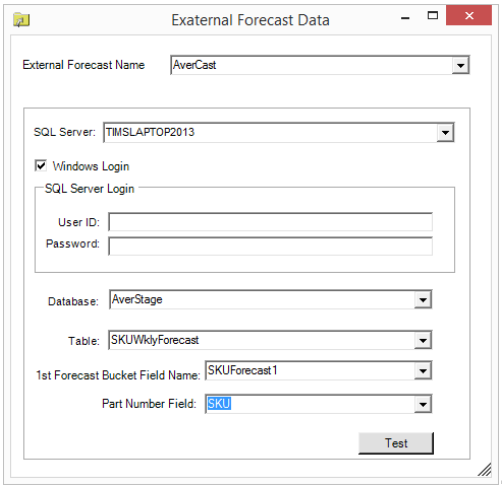


Login: Use MAX User and Password and select company



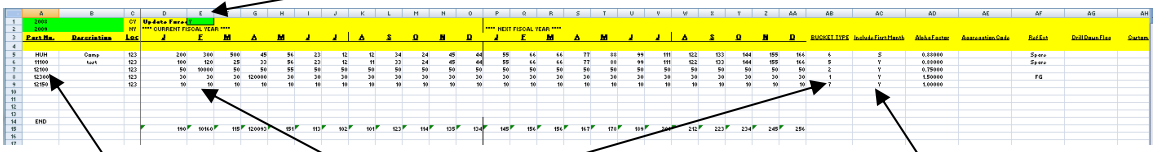
External Forecast:

External Forecast data. Note: using External forecast data may require working with Balance Point to map the data.



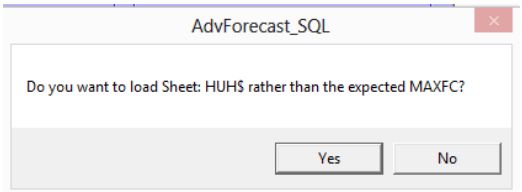
Spreadsheet Format:

To Update Forecast in database, set cell to ‘Y’ or 1 (if the column is defined in Excel as numeric) or ‘N’. (Y or 1 tells program to read new forecast numbers in from Excel, otherwise new forecasts are ignored)



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 month’s forecast as nettable demand (Y) or accumulating demand (snowplow demand S), or not (N).
Current Year and Next Year (Actual) required.

The application looks for a worksheet named ‘MAXFC’ and if not found will display a confirming message to use the first sheet name found:



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).

The application will 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 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. If using Aggregation set Agg Code = group used in Part Sales UDFKey, else leave blank.

If an extension to the Bucket Description/Year is required as a reference in MAX, 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.

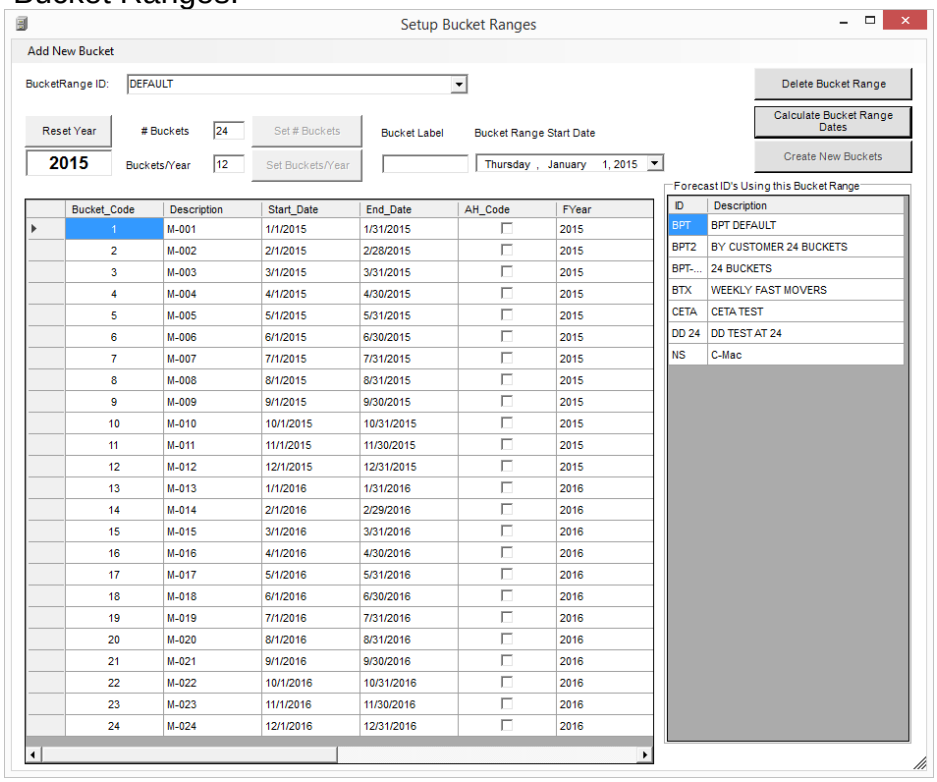
If using Customer specific Forecasting, enter Customer ID to net against, or common prefix of Customer ID for groups. Change to Stock ID's if using Stock ID netting.

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.

Setup Forecast Tables:

Bucket Ranges:



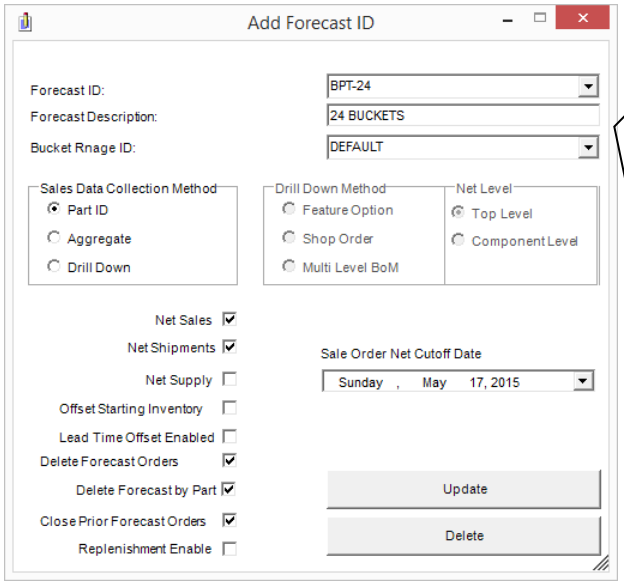
Forecasting buckets are user defined, with a start and end date. This allows user definition of months and bucket size (recommend monthly buckets, as smaller increments are less accurate). The first month of the year is defined by setting monthly offsets in global table. User sets how many buckets are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

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: A/H Code is Checked for past bucket.

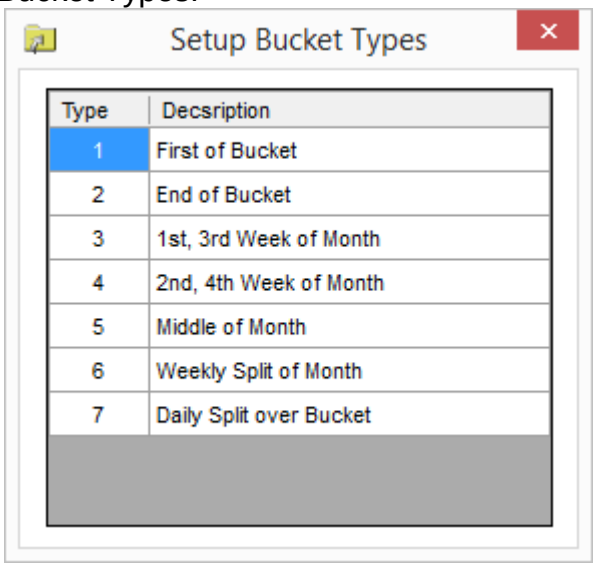
Reset Year: enter the current year and hit "Reset Year" button to automatically adjust the years in the bucket date fields.
Do next year first, then current year. Change Year to new current and next. Set AH to False. Run "Recalculate Bucket Range Dates" to calculate new dates.

Forecast ID:



1. Forecast ID - matches spreadsheet location.
2. Description
3. Bucket Range for this ID
4. 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
    d. Net Level
        i. Top
        ii. Component
5. Net Sales - determines whether sales backlog is netted against forecast.
6. Close forecast orders which are due prior to selected cut-off date.
7. Net Shipments – Nets shipments against forecast
8. Net Supply – (Repetitive)
9. Offset Starting Inventory - net starting inventory.
10. 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.
11. Delete Forecast – delete existing forecast
    a. Delete by Part based on input
12. Replenishment Enabled – allow for replenishment when below Stock ID ROP levels.
13. Sales Order Cut Off – sales order before this date will not be including in netting.

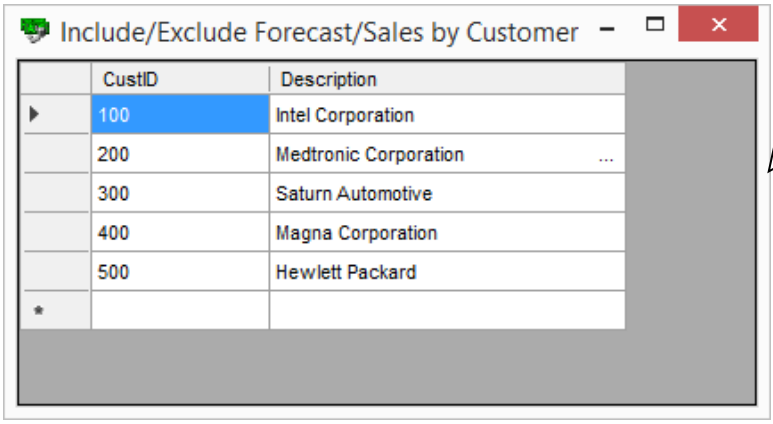
Bucket Types:



Type	Decsription
1	First of Bucket
2	End of Bucket
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).

Customers: Include / Exclude

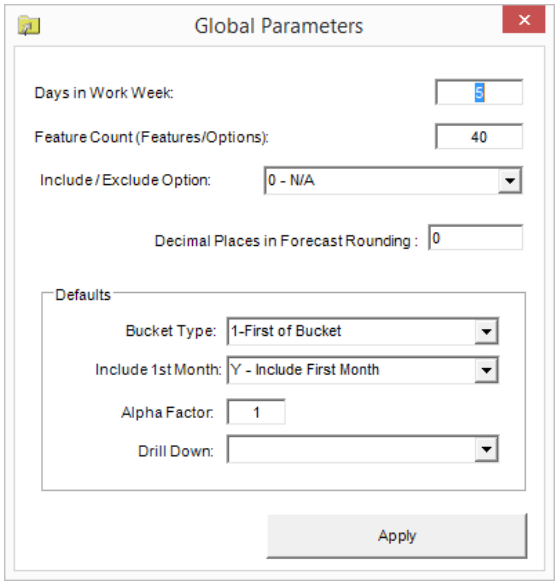


Customers: Enter Customers you want to include or exclude in Forecast calculations. See Customers Include/Exclude.

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

Global Parameters:



1. Days in work week.
2. Number of Features if using Feature/Options

Customers Include/Exclude:

0-No Include/Exclude

1- Include Customers: Only Sales Orders for these customers will be netted

2- Exclude Customers: Sales Orders for these Customers will NOT be netted

3–Customer Specific: Customer or Customer Group will be netted.

4–Stock ID: Sales Orders will be netted by their Ship From Stock ID on Sales Order.

Defaults:

1) Bucket Type
2) Include First Month
3) Alpha Factor
4) Drill Down code

Startup:

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).

Procedures:

If loading from a spreadsheet:

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, 'N' will use data already in Forecast table, skipping spreadsheet data. You can also select (Load with Update Forecast = "N") to ignore the setting in the spreadsheet.

If loading from external forecast database:

1. Ensure that the data settings are correct.
2. And the data is current

3) Select Cutoff Date for Forecast generation (Start date of first Bucket in currently requested range)
4) Select in sequence:
   a) **Import From Spreadsheet or External Forecast** – this step will bring the data into the database and will not have any effect on MAX.
   b) **Net Sales / Forecast Against Forecast and Assign Bucket Dates -** this step will do the netting if requested and will match the bucket dates to the forecast and will not have any effect on MAX.
   c) **Load Net Forecast into MAX** – this step will load the Forecast Orders into MAX. Depending on setting the current forecast will be deleted in total or based on the parts being forecasted.

5) To run from command line in Windows Scheduler: Setup command line path to AdvForecast_SQL.exe, followed by /AUTO with optional parameters: Forecast ID, Spreadsheet file or External Name, and cut-off date (separated by a space.)

No optional parameters, defaults will be used:

C:\Program Files\AdvanceForecastSQL\AdvForecast_SQL.exe /AUTO

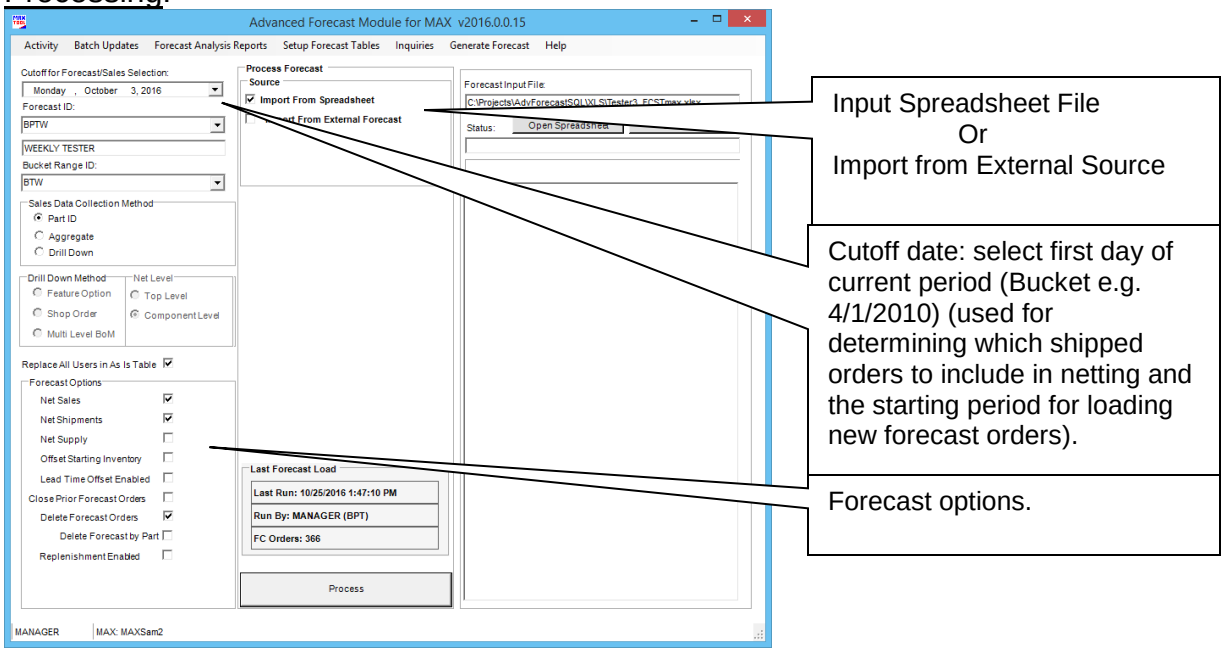
With optional parameters:

Using Spreadsheet:
C:\Program Files\AdvanceForecast_SQL\\AdvanceForecast_SQL.exe \AUTO BPT **C:\Projects\AdvForecast_SQL\Tester2_FCSTmax.xls** 1/20/2014

Using External:
C:\Program Files\AdvanceForecast_SQL\AdvForecast_SQL.exe \AUTO BPT **Avercast** 1/20/2014

The date parameter can also use the following defaults:
Asterisk = current date, "FOM" = first of current month, "FOP" = first of current period in Buckets

Processing:



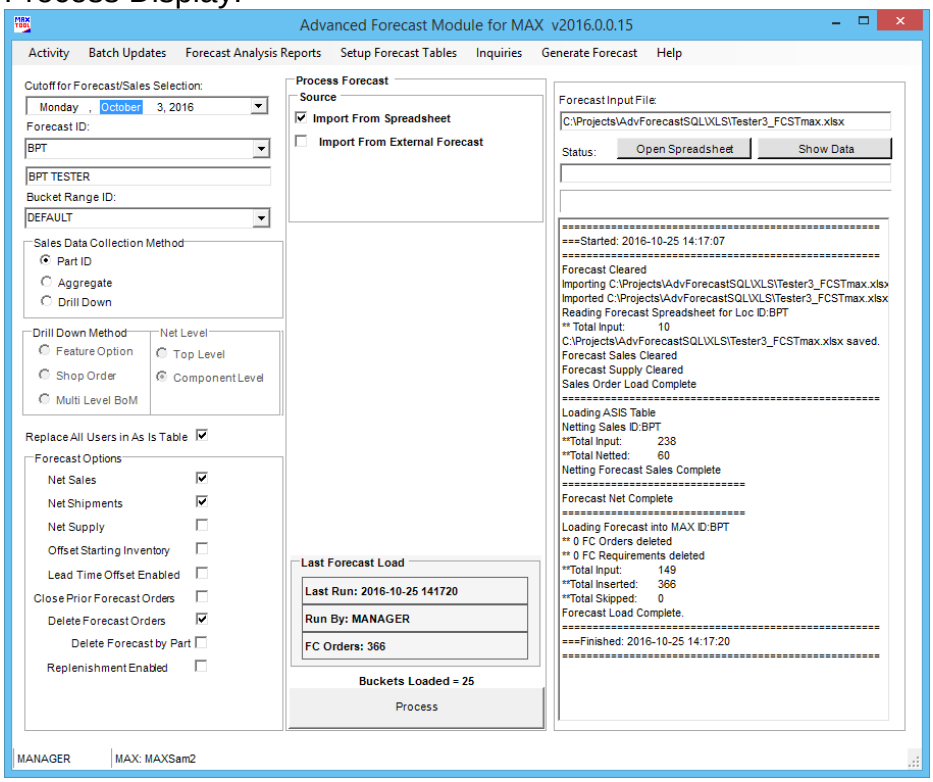
1) **Cutoff for Forecast/Sales Selection**: This will prevent any individual Forecast orders from being loaded that have due dates before the cut-off date, and is used for First Month forecast orders in combination with 'Include First Month' = 'S' to tell system to add individual forecast order quantities 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.)
2) **Forecast ID**: the ID has to match the "Loc" column in the incoming spreadsheet and represents a profile of defaults for processing the forecast. Selecting the ID will set the switch values on the form, which can be changed if needed.
3) **Bucket Range ID**: is the set of time buckets associated with the Forecast ID. This can be changed.
4) **Sales Data Collection Method**:
    a. **Part ID** - specific parts
    b. **Aggregate** - forecast similar parts together (e.g. different colors but same basic part)
    c. **Drill Down** - forecast the components of a part
5) **Drill Down Method:**
    a. **Feature Option -** prior 3-month average quantity per of configured order components
    b. **Shop Order -** prior 3-month average quantity per of required components
    c. **Multi-level BOM -** exploded components

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

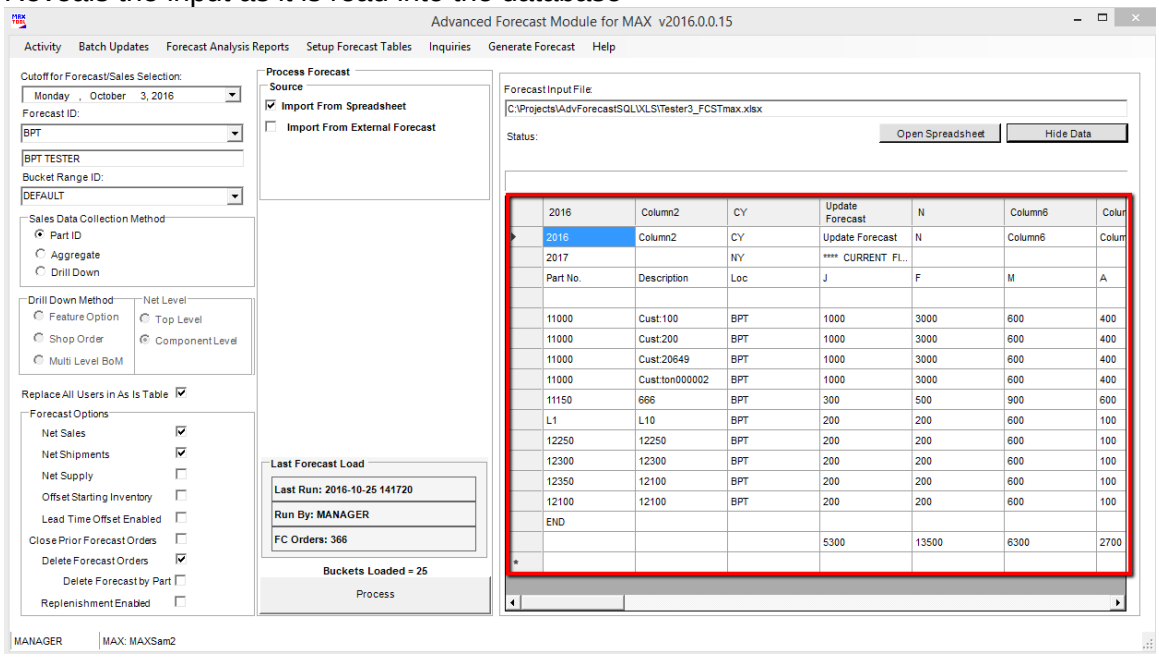
Hit Process button after selecting individual steps (1, 2, 3) or all three at once:

Process Display:



Show Data:

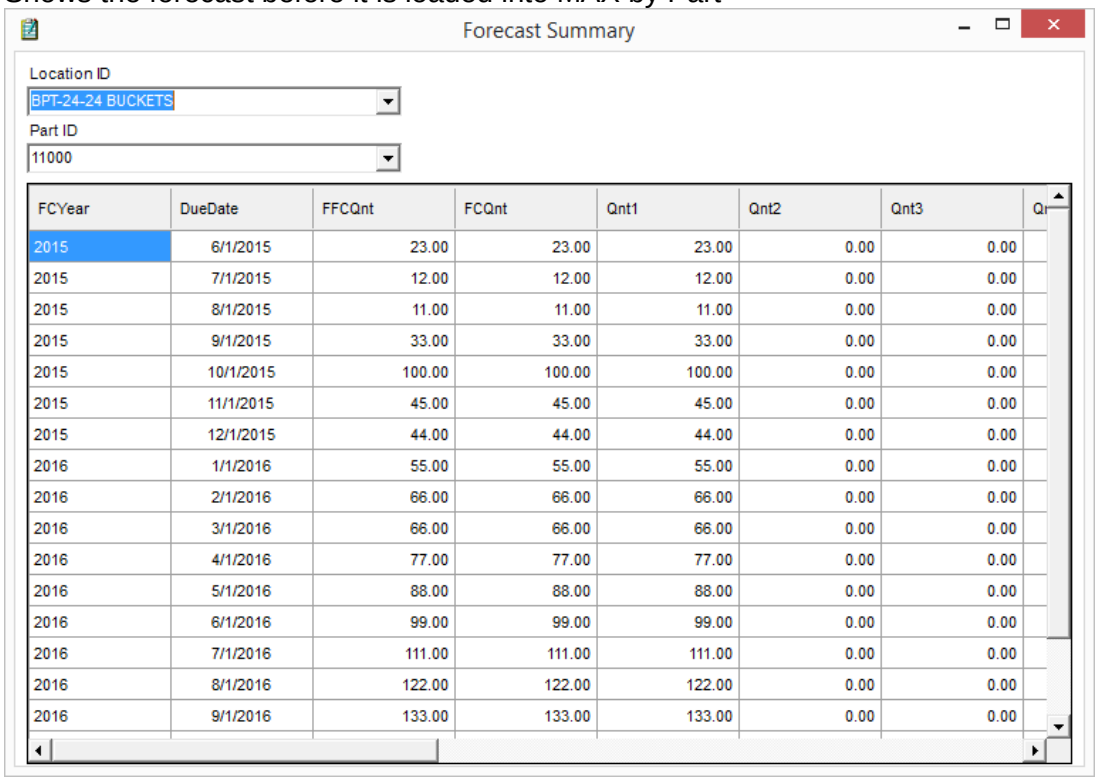
Reveals the input as it is read into the database



Inquiries:

Forecast Summary:

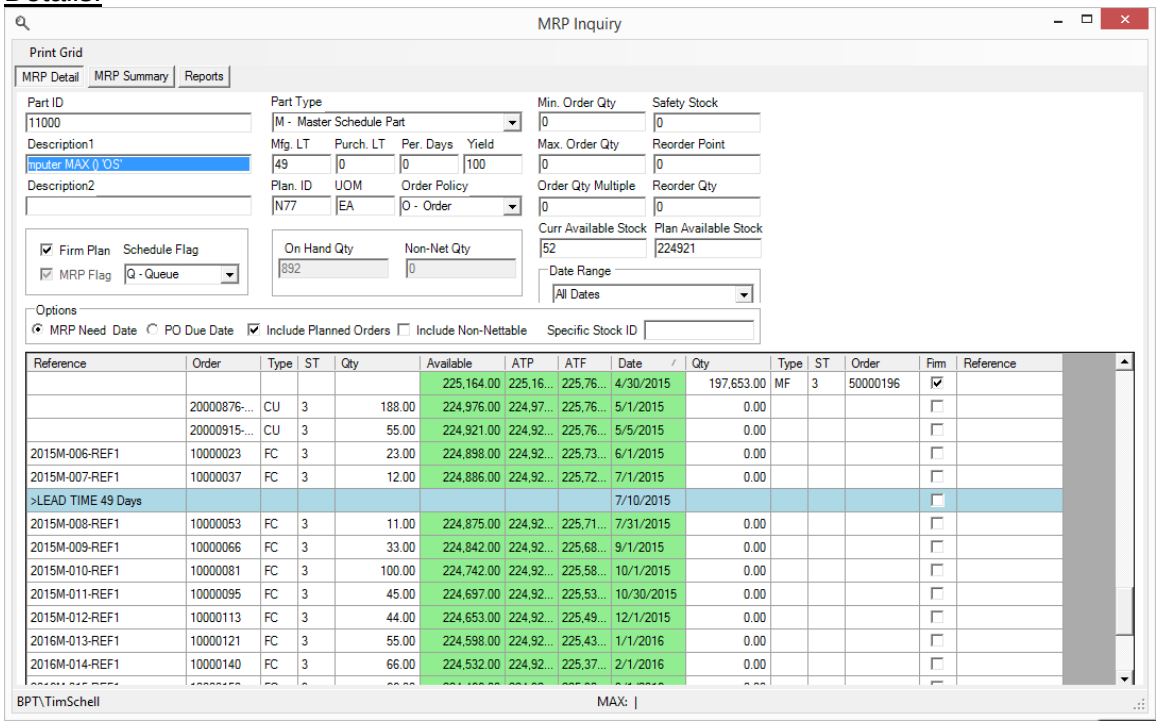
Shows the forecast before it is loaded into MAX by Part



FCYear	DueDate	FFCQnt	FCQnt	Qnt1	Qnt2	Qnt3	Qr
2015	6/1/2015	23.00	23.00	23.00	0.00	0.00	
2015	7/1/2015	12.00	12.00	12.00	0.00	0.00	
2015	8/1/2015	11.00	11.00	11.00	0.00	0.00	
2015	9/1/2015	33.00	33.00	33.00	0.00	0.00	
2015	10/1/2015	100.00	100.00	100.00	0.00	0.00	
2015	11/1/2015	45.00	45.00	45.00	0.00	0.00	
2015	12/1/2015	44.00	44.00	44.00	0.00	0.00	
2016	1/1/2016	55.00	55.00	55.00	0.00	0.00	
2016	2/1/2016	66.00	66.00	66.00	0.00	0.00	
2016	3/1/2016	66.00	66.00	66.00	0.00	0.00	
2016	4/1/2016	77.00	77.00	77.00	0.00	0.00	
2016	5/1/2016	88.00	88.00	88.00	0.00	0.00	
2016	6/1/2016	99.00	99.00	99.00	0.00	0.00	
2016	7/1/2016	111.00	111.00	111.00	0.00	0.00	
2016	8/1/2016	122.00	122.00	122.00	0.00	0.00	
2016	9/1/2016	133.00	133.00	133.00	0.00	0.00	

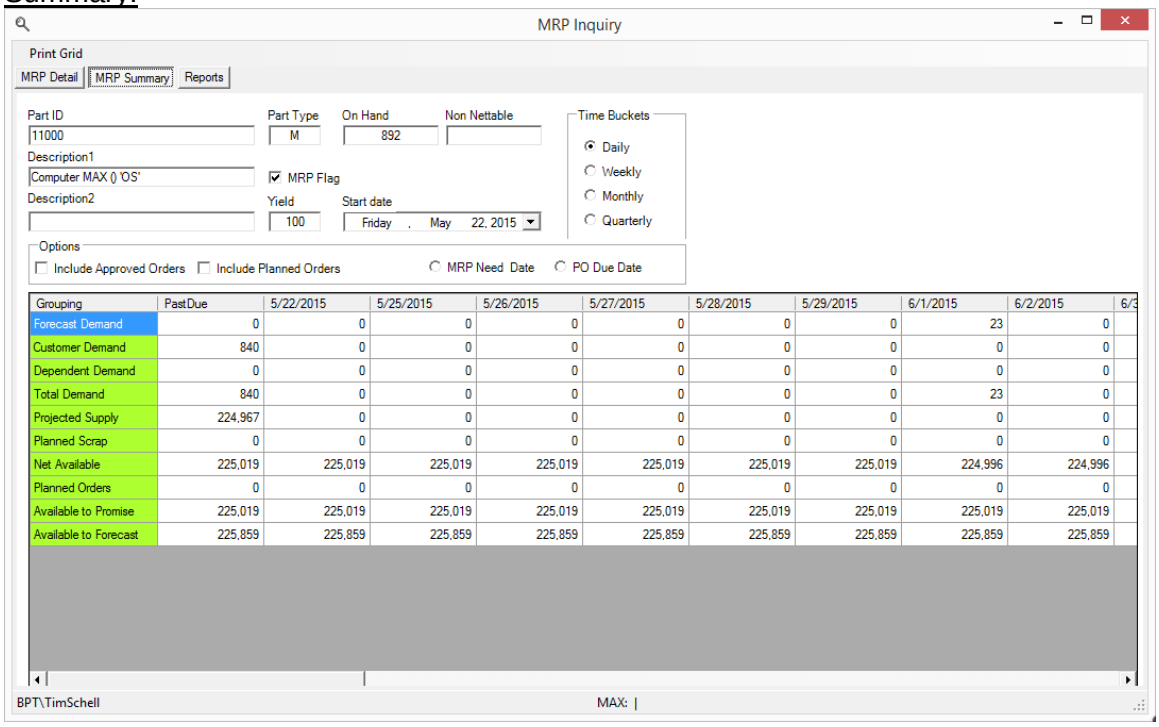
MRP Detail and Summary:

Details:



Reference	Order	Type	ST	Qty	Available	ATP	ATF	Date	Qty	Type	ST	Order	Firm	Reference
					225,164.00	225,16...	225,76...	4/30/2015	197,653.00	MF	3	50000196	☑	
	20000876-...	CU	3	188.00	224,976.00	224,97...	225,76...	5/1/2015	0.00				☐	
	20000915-...	CU	3	55.00	224,921.00	224,92...	225,76...	5/5/2015	0.00				☐	
2015M-006-REF1	10000023	FC	3	23.00	224,898.00	224,92...	225,73...	6/1/2015	0.00				☐	
2015M-007-REF1	10000037	FC	3	12.00	224,886.00	224,92...	225,72...	7/1/2015	0.00				☐	
>LEAD TIME 49 Days								7/10/2015					☐	
2015M-008-REF1	10000053	FC	3	11.00	224,875.00	224,92...	225,71...	7/31/2015	0.00				☐	
2015M-009-REF1	10000066	FC	3	33.00	224,842.00	224,92...	225,68...	9/1/2015	0.00				☐	
2015M-010-REF1	10000081	FC	3	100.00	224,742.00	224,92...	225,58...	10/1/2015	0.00				☐	
2015M-011-REF1	10000095	FC	3	45.00	224,697.00	224,92...	225,53...	10/30/2015	0.00				☐	
2015M-012-REF1	10000113	FC	3	44.00	224,653.00	224,92...	225,49...	12/1/2015	0.00				☐	
2016M-013-REF1	10000121	FC	3	55.00	224,598.00	224,92...	225,43...	1/1/2016	0.00				☐	
2016M-014-REF1	10000140	FC	3	66.00	224,532.00	224,92...	225,37...	2/1/2016	0.00				☐	

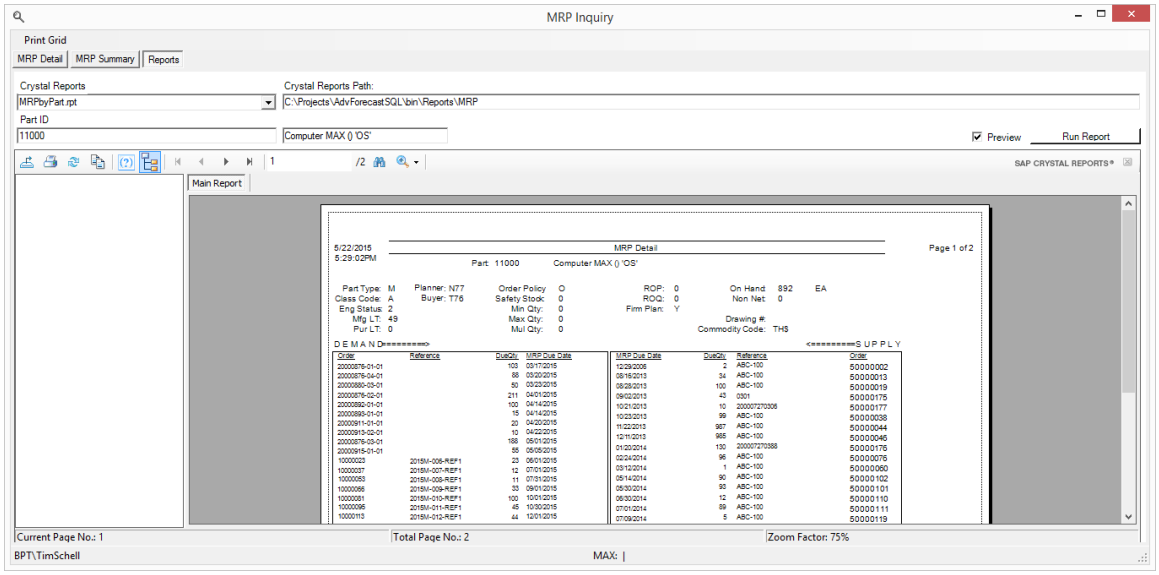
Summary:



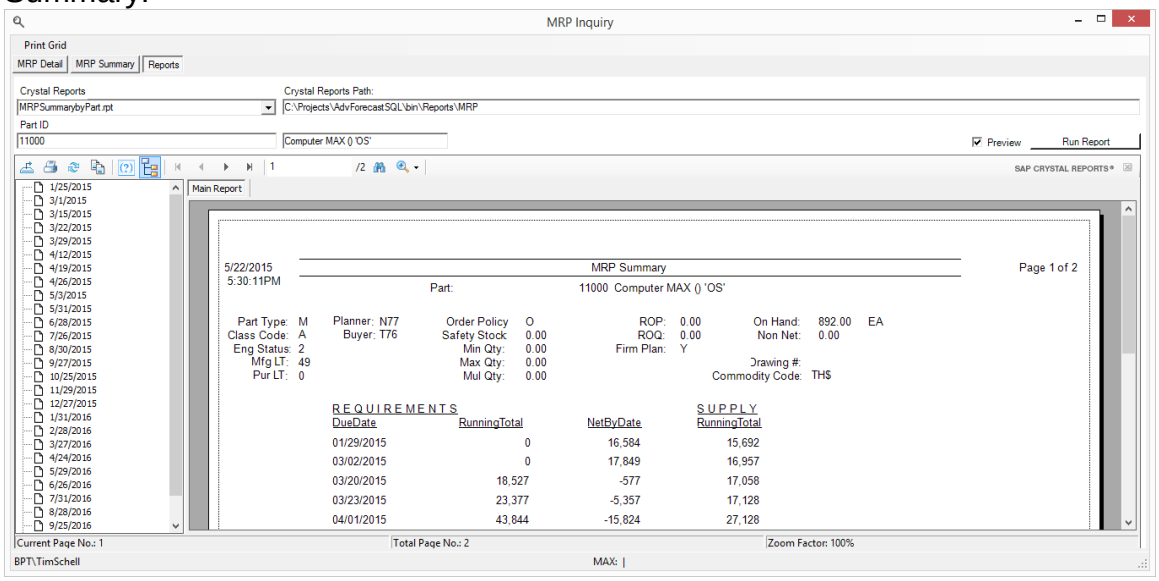
Grouping	PastDue	5/22/2015	5/25/2015	5/26/2015	5/27/2015	5/28/2015	5/29/2015	6/1/2015	6/2/2015	6/3
Forecast Demand	0	0	0	0	0	0	0	23	0	
Customer Demand	840	0	0	0	0	0	0	0	0	
Dependent Demand	0	0	0	0	0	0	0	0	0	
Total Demand	840	0	0	0	0	0	0	23	0	
Projected Supply	224,967	0	0	0	0	0	0	0	0	
Planned Scrap	0	0	0	0	0	0	0	0	0	
Net Available	225,019	225,019	225,019	225,019	225,019	225,019	225,019	224,996	224,996	
Planned Orders	0	0	0	0	0	0	0	0	0	
Available to Promise	225,019	225,019	225,019	225,019	225,019	225,019	225,019	225,019	225,019	
Available to Forecast	225,859	225,859	225,859	225,859	225,859	225,859	225,859	225,859	225,859	

MRP Reports:

Details:

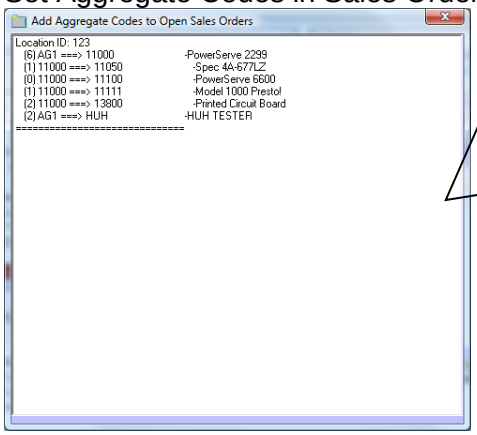


Summary:



Batch Updates:

Set Aggregate Codes in Sales Order Details:

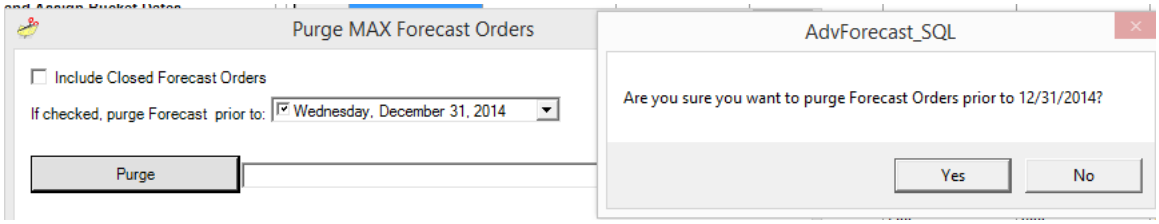


This process will update open Sales Orders and Orders with Ship Dates on or after the entered cutoff date with the Aggregate codes defined in Part Sales UDFKEY_29.

This process is only needed if using the Aggregation.

Forecast Purge:

Used to delete forecast orders from MAX.

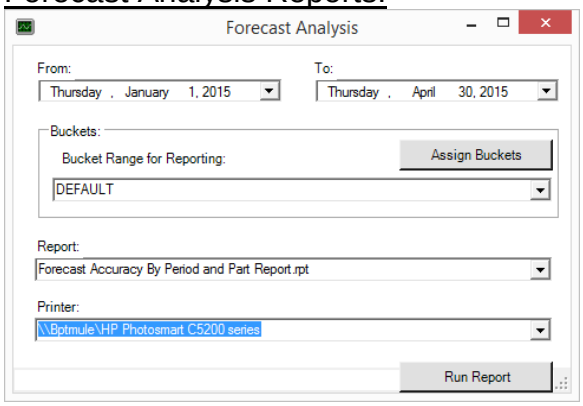


The purge function can also be run in command mode by passing the following parameters:

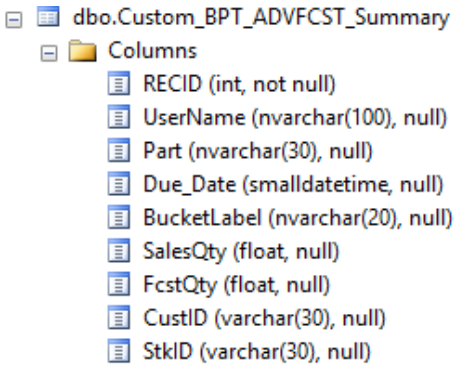
/PURGEFC 365 Y

355 = days to go back from current date and Y/N to indicate whether closed forecast are to be purged. If the 2nd and 3rd parameters are missing 0 and “N” will be used.

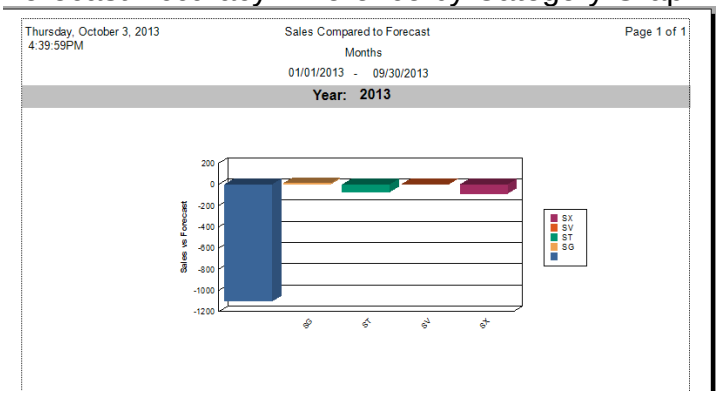
Forecast Analysis Reports:



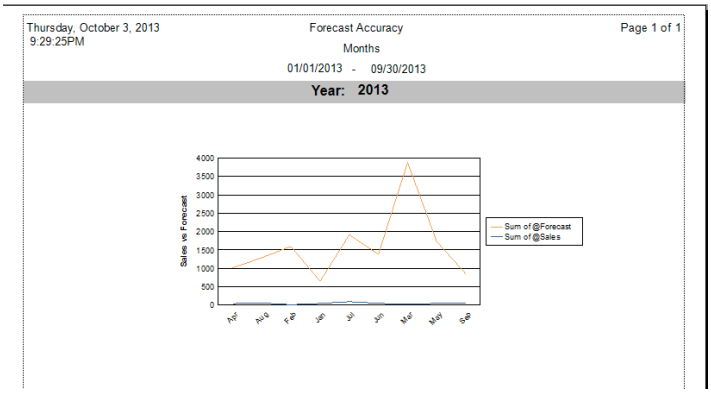
Assign Buckets: sorts and summarizes the sales and forecast data into buckets defined by a selected Bucket Range.
The summarized data is stored in a MAX table called:
CUSTOM_BPT_ADVFCST_SUMMARY



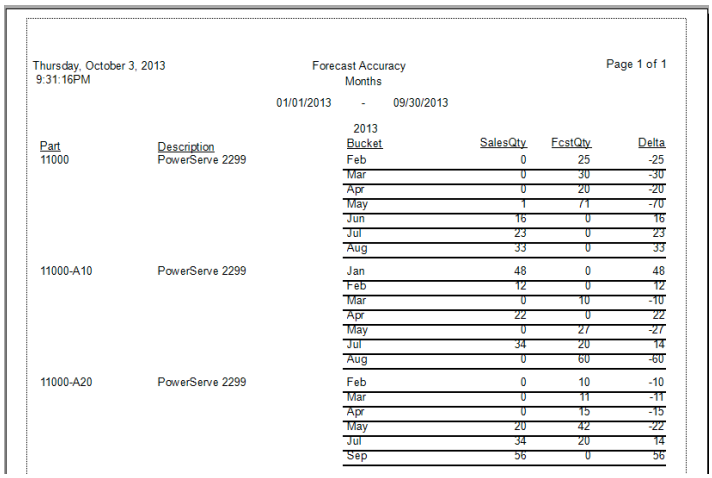
Forecast Accuracy Difference by Category Graph



Forecast Accuracy Sales versus Forecast Line Graph



Forecast Accuracy By Period and Part Report



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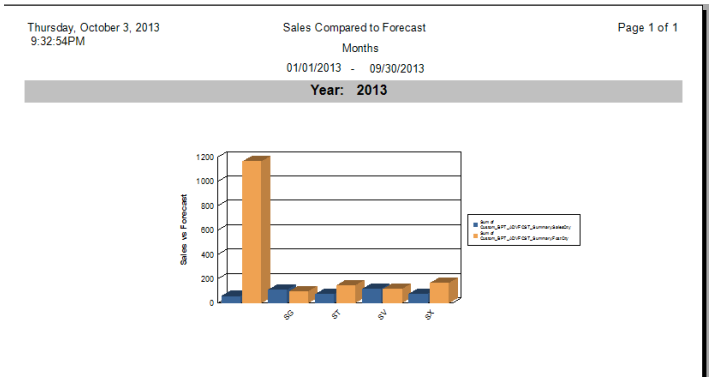
01/01/2013 - 09/30/2013

Part	Description	2013 Bucket	SalesQty	FcstQty	Delta
11000	PowerServe 2299	Feb	0	25	-25
		Mar	0	30	-30
		Apr	0	20	-20
		May	1	71	-70
		Jun	16	0	16
		Jul	23	0	23
		Aug	33	0	33
11000-A10	PowerServe 2299	Jan	48	0	48
		Feb	12	0	12
		Mar	0	10	-10
		Apr	22	0	22
		May	0	27	-27
		Jul	34	20	14
		Aug	0	60	-60
11000-A20	PowerServe 2299	Feb	0	10	-10
		Mar	0	11	-11
		Apr	0	15	-15
		May	20	42	-22
		Jul	34	20	14
		Sep	56	0	56

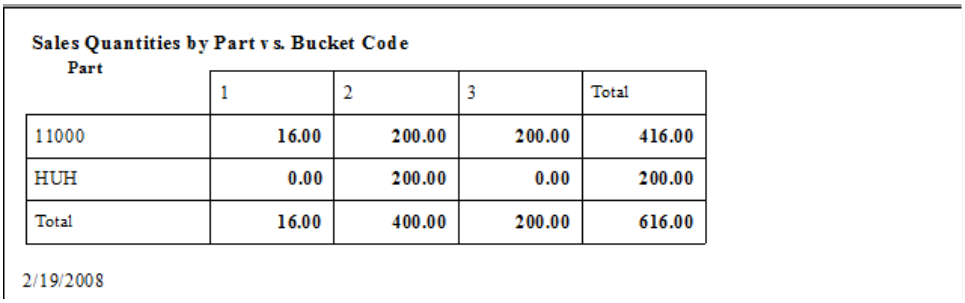
Sales vs. Forecast by Category Bar Chart



Audit Reports:

Sales Quantities by Part and Bucket:

Run as an option when initially reading the forecast spreadsheet:



Sales Quantities by Part vs. 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

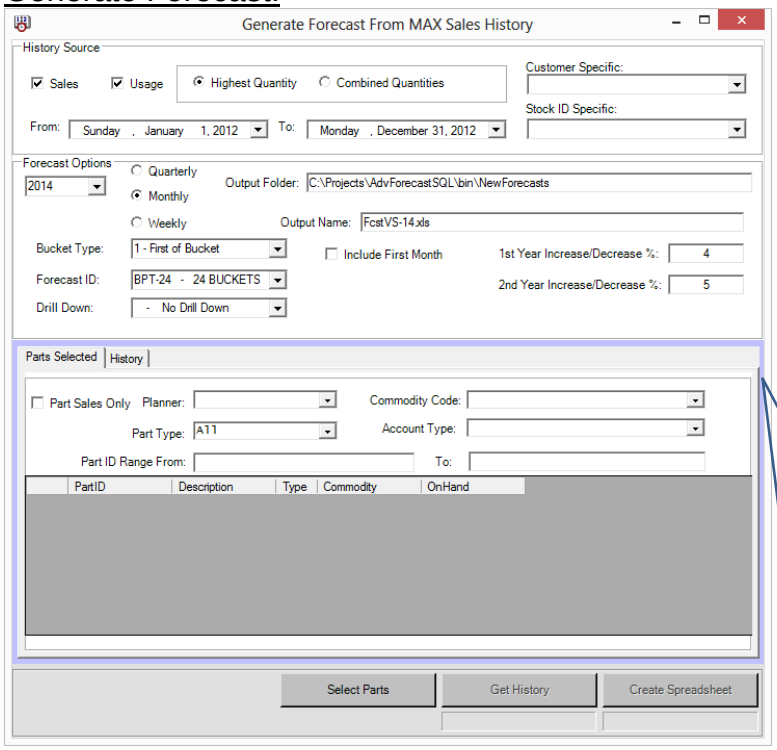
Netted Forecast Quantities by Part and Bucket:
Run as an option when netting the forecast.

Netted Forecast Quantities by Part vs. Bucket

Part	1/1/1980	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

Generate Forecast:

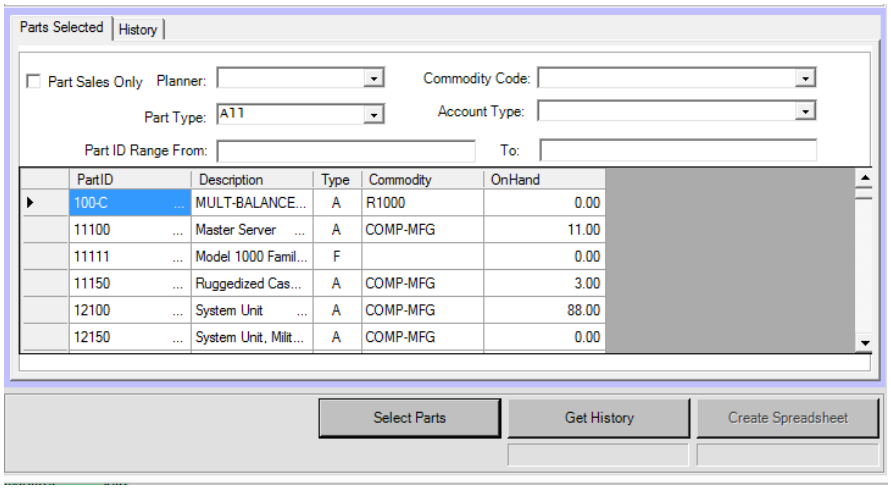


Generate a forecast from sales history.

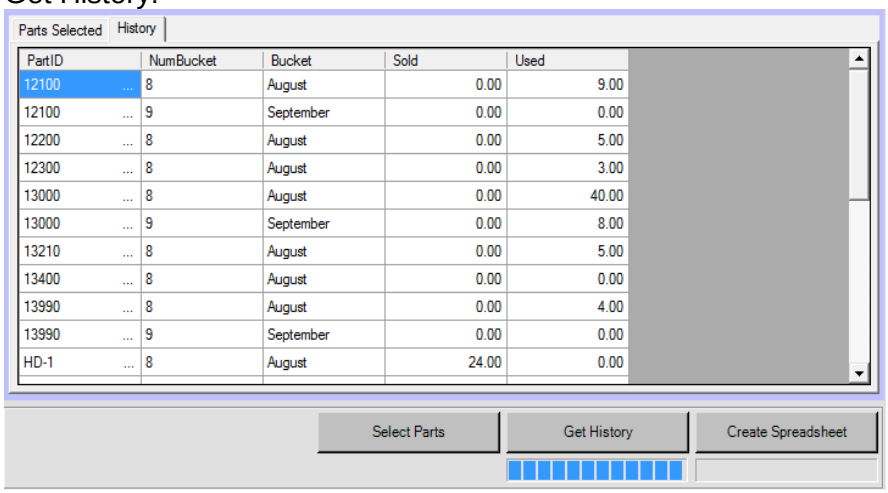
Select date range, periods, planner, commodity code, account type and/or part ID range.

1) Select Parts – remove any un-wanted parts by deleing from the grid
2) Get History – extracts the sales history by period based on the selection criteria
3) Create Spreadsheet – loads the data into a spreadsheet that is ready to be loaded into MAX

Select Parts:



Get History:



Create Spreadsheet:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
2	2014		CY															
3	2015		NY															
4	Part No.	Descriptio	LOC	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
5																		
6	12100	System Ur	BPT-24	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
7	12200	Cabinet	BPT-24	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
8	12300	Mother Bo	BPT-24	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
9	13000	Keyboard	BPT-24	0	0	0	0	0	0	0	42	8	0	0	0	0	0	0
10	13210	Hard Drive	BPT-24	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
11	13400	Microproc	BPT-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	13990	Box, Cardl	BPT-24	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
13	HD-1	SOLID ST.	BPT-24	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0
14	L2	LOT TEST	BPT-24	0	0	0	0	0	0	0	1	26	0	0	0	0	0	0
15	L5	LOT TEST	BPT-24	0	0	0	0	0	0	0	5	6	0	0	0	0	0	0
16	LS1	LOT SERI	BPT-24	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
17	PANEL1	PCB 1	BPT-24	0	0	0	0	0	0	0	40	18	0	0	0	0	0	0
18	REEL1	REEL CO	BPT-24	0	0	0	0	0	0	0	557	183	0	0	0	0	0	0
19	REEL2	REEL CO	BPT-24	0	0	0	0	0	0	0	493	237	0	0	0	0	0	0
20	REEL3	REEL CO	BPT-24	0	0	0	0	0	0	0	152	79	0	0	0	0	0	0