What's New in Statgraphics Centurion Version 16.2?

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Web site: www.statgraphics.com

STATPOINT
TECHNOLOGIES, INC.

Version 16.2

A periodic maintenance release incorporating:

- Several new capabilities
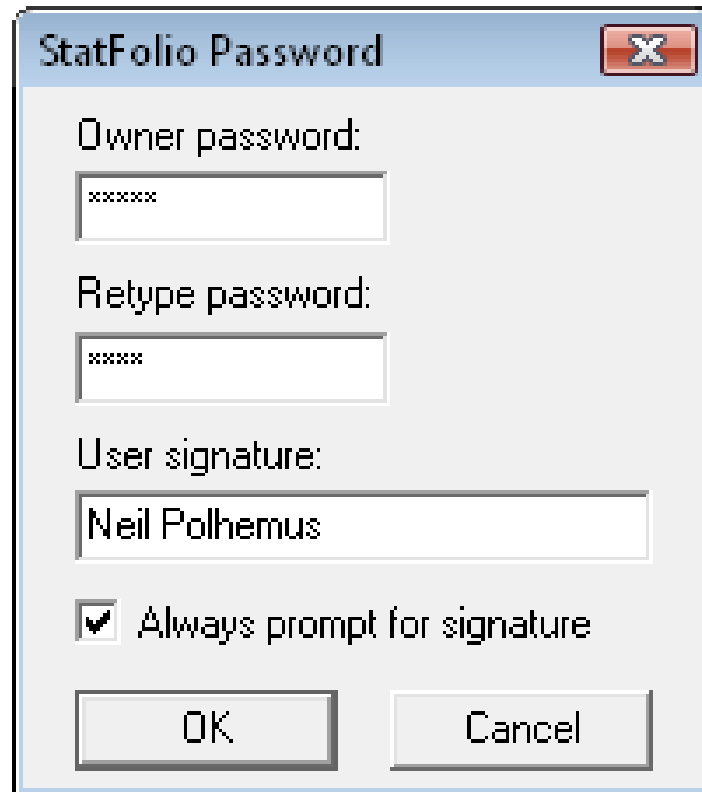- Improvements to specific procedures to fix known issues and limitations.

Free update for all Version 16 licensees.

New Capabilities

- StatFolio passwords

- User signatures and StatFolio audit trail

- New summary statistics

- New operators for character data

- Confidence limits and other statistics on normal probability plots

- New distributions for *Statistical Tolerance Limits*

- Zooming on graphs using mouse wheel

StatFolio Passwords

StatFolio passwords are set by selecting *Edit – StatFolio Password* from the main menu:

Opening StatFolio Containing Password

When a StatFolio containing a password is opened, you must enter the password to load it:

Cautions

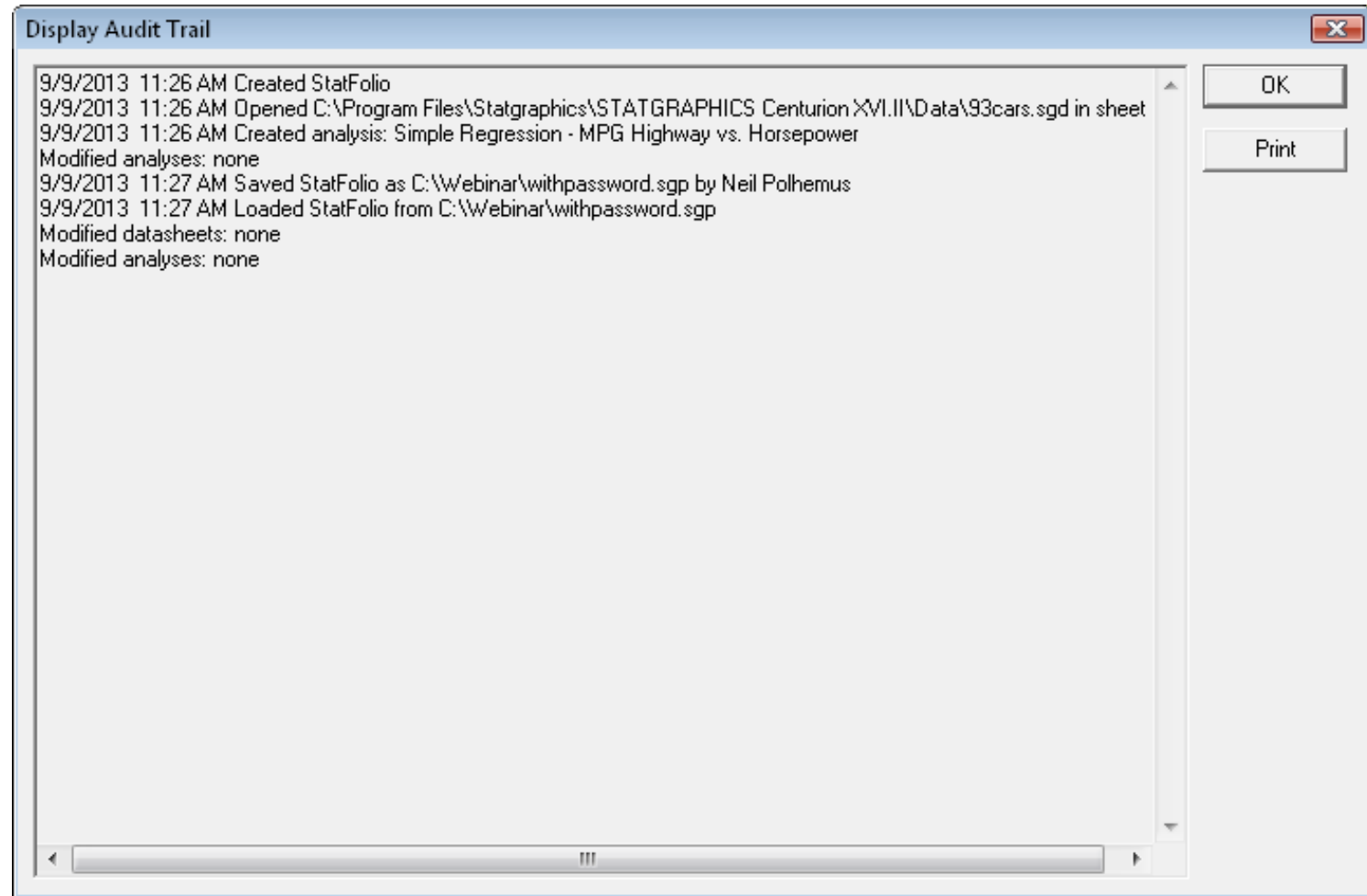- StatFolios do not have passwords unless you select *Edit – StatFolio Password* before you save them.

- If you forget the password for a saved StatFolio, you will have to contact us for details on how to load it.

- StatFolios saved using Version 16.2 cannot be opened by previous versions.
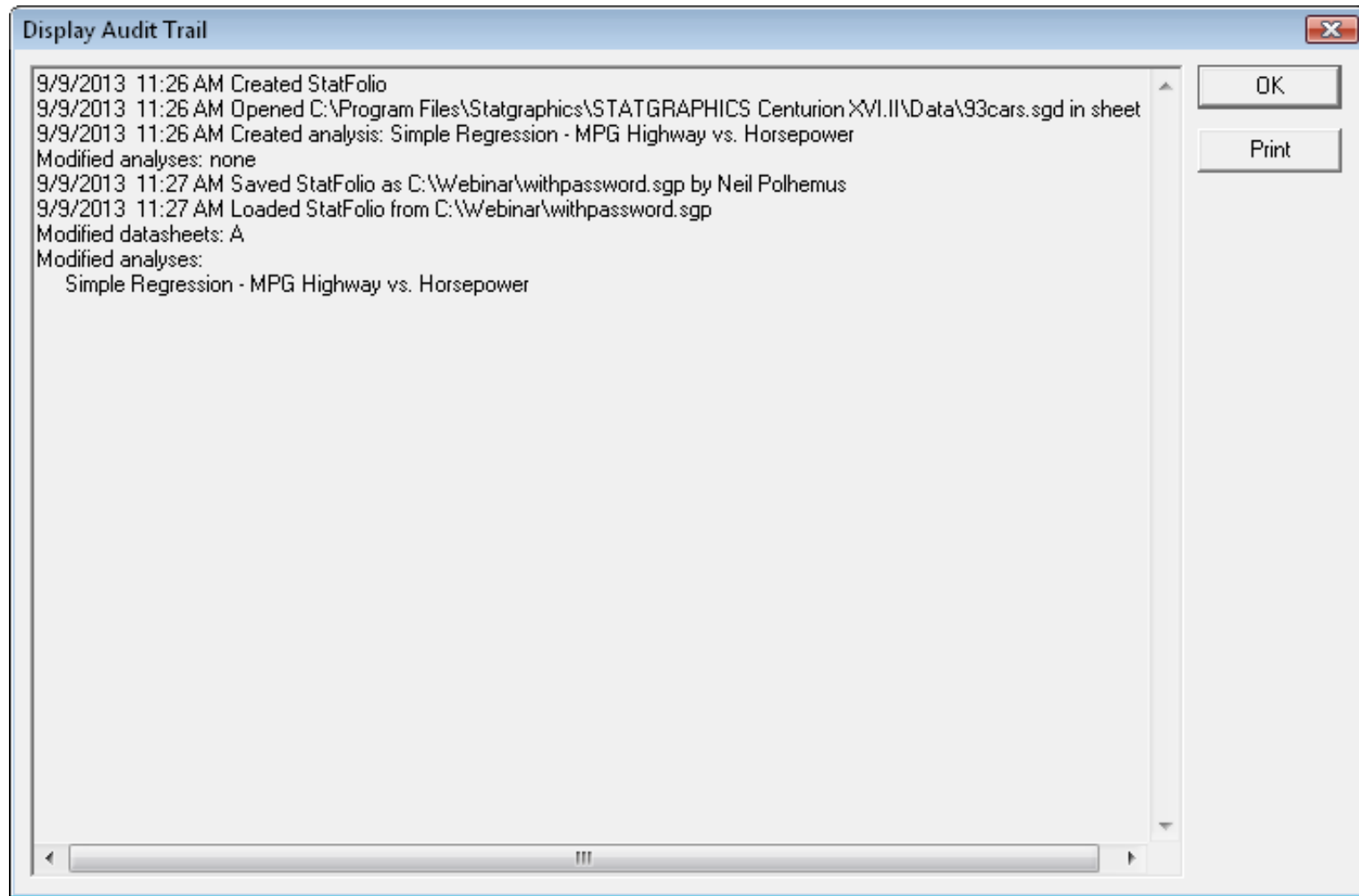
Audit Trail and User Signatures

Selecting *File – Display Audit Trail* from the main menu will give you information about the current StatFolio:


```
Display Audit Trail

9/9/2013  11:26 AM Created StatFolio
9/9/2013  11:26 AM Opened C:\Program Files\Statgraphics\STATGRAPHICS Centurion XVI.II\Data\93cars.sgd in sheet
9/9/2013  11:26 AM Created analysis: Simple Regression - MPG Highway vs. Horsepower
Modified analyses: none
9/9/2013  11:27 AM Saved StatFolio as C:\Webinar\withpassword.sgp by Neil Polhemus
9/9/2013  11:27 AM Loaded StatFolio from C:\Webinar\withpassword.sgp
Modified datasheets: none
Modified analyses: none
```

OK

Print

Modified StatFolios

The *Audit Trail* will indicate whether or not you have modified the StatFolio and/or the data:

Display Audit Trail

```
9/9/2013 11:26 AM Created StatFolio
9/9/2013 11:26 AM Opened C:\Program Files\Statgraphics\STATGRAPHICS Centurion XVI.II\Data\93cars.sgd in sheet
9/9/2013 11:26 AM Created analysis: Simple Regression - MPG Highway vs. Horsepower
Modified analyses: none
9/9/2013 11:27 AM Saved StatFolio as C:\Webinar\withpassword.sgp by Neil Polhemus
9/9/2013 11:27 AM Loaded StatFolio from C:\Webinar\withpassword.sgp
Modified datasheets: A
Modified analyses:
    Simple Regression - MPG Highway vs. Horsepower
```

OK

Print

New Summary Statistics

Harmonic mean (often used to average rates):

$$\overline{x}_h = \left(\frac{1}{n} \sum_{i=1}^{n} x_i^{-1} \right)^{-1}$$

New Summary Statistics

Geometric standard deviation (variation around the geometric mean, useful for lognormal distribution):

$$s_g = \exp\left(\sqrt{\frac{\sum_{i=1}^{n}\left(\ln\frac{x_i}{x_g}\right)^2}{n}}\right)$$

New Summary Statistics

Mean absolute deviation (not to be confused with MAD, which is the median absolute deviation):

$$\frac{\sum_{i=1}^{n}\left|x_i - \overline{x}\right|}{n}$$

New Summary Statistics

Gini coefficient (used to measure inequality of income or wealth):

$$G = \left(\frac{n}{n-1}\right)\frac{\sum_{i=1}^{n}\sum_{j=1}^{n}\left|x_i - x_j\right|}{2n^2\bar{x}}$$

0 = perfect equality

1 = maximum inequality

New Operators for Character Data
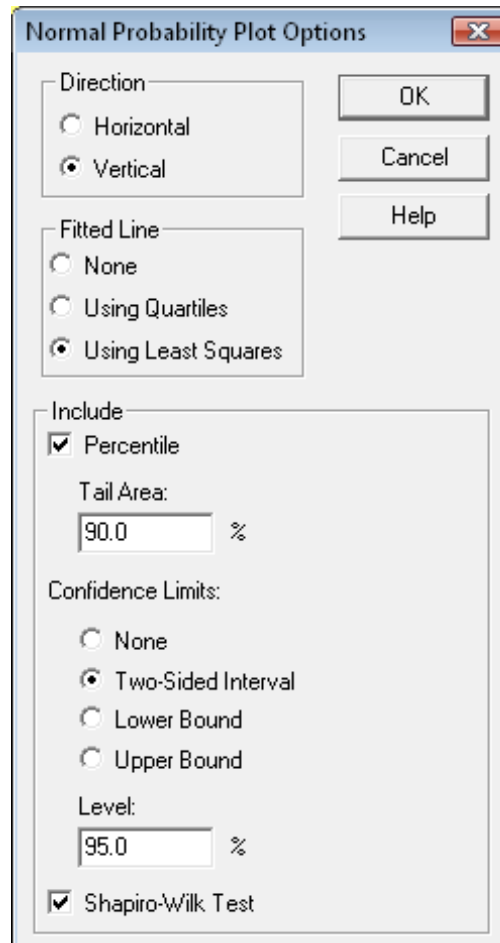
- LOWER(make) – converts strings to lowercase.

- UPPER(make) – converts strings to uppercase.

- PROPER(make) – capitalizes first character of each word and converts other characters to lowercase.

- TRIM(make) – removes any leading or trailing blanks.

New Operators for Character Data

- LEN(make) – counts the number of characters in each cell.

- LEFT($make, 10$) – takes leftmost 10 characters of each cell.

- RIGHT($make, 10$) – takes rightmost 10 characters of each cell.

- MID($make, 3, 10$) – takes 10 characters from each cell starting at position 3.

Normal Probability Plots

May elect to add crosshairs for a selected percentile, confidence limits for all percentiles (assuming normality), and the Shapiro-Wilk test:

Normal Probability Plots
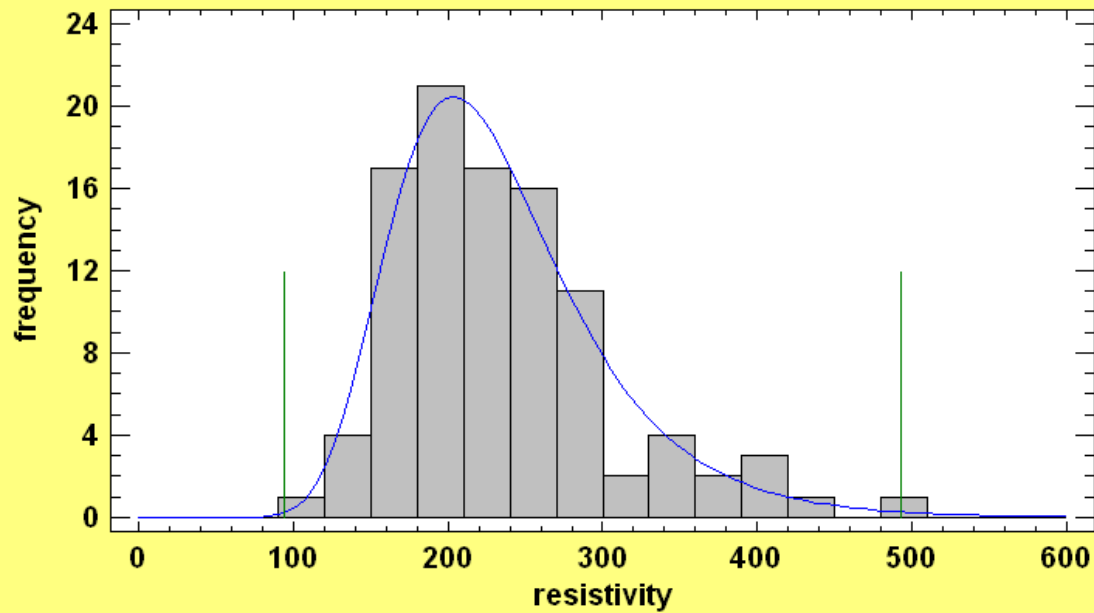
Statistical Tolerance Limits

Used to bound a specified percentage of a population with a given level of confidence. The *Analysis Options* dialog box has been expanded to include 8 new distributions:

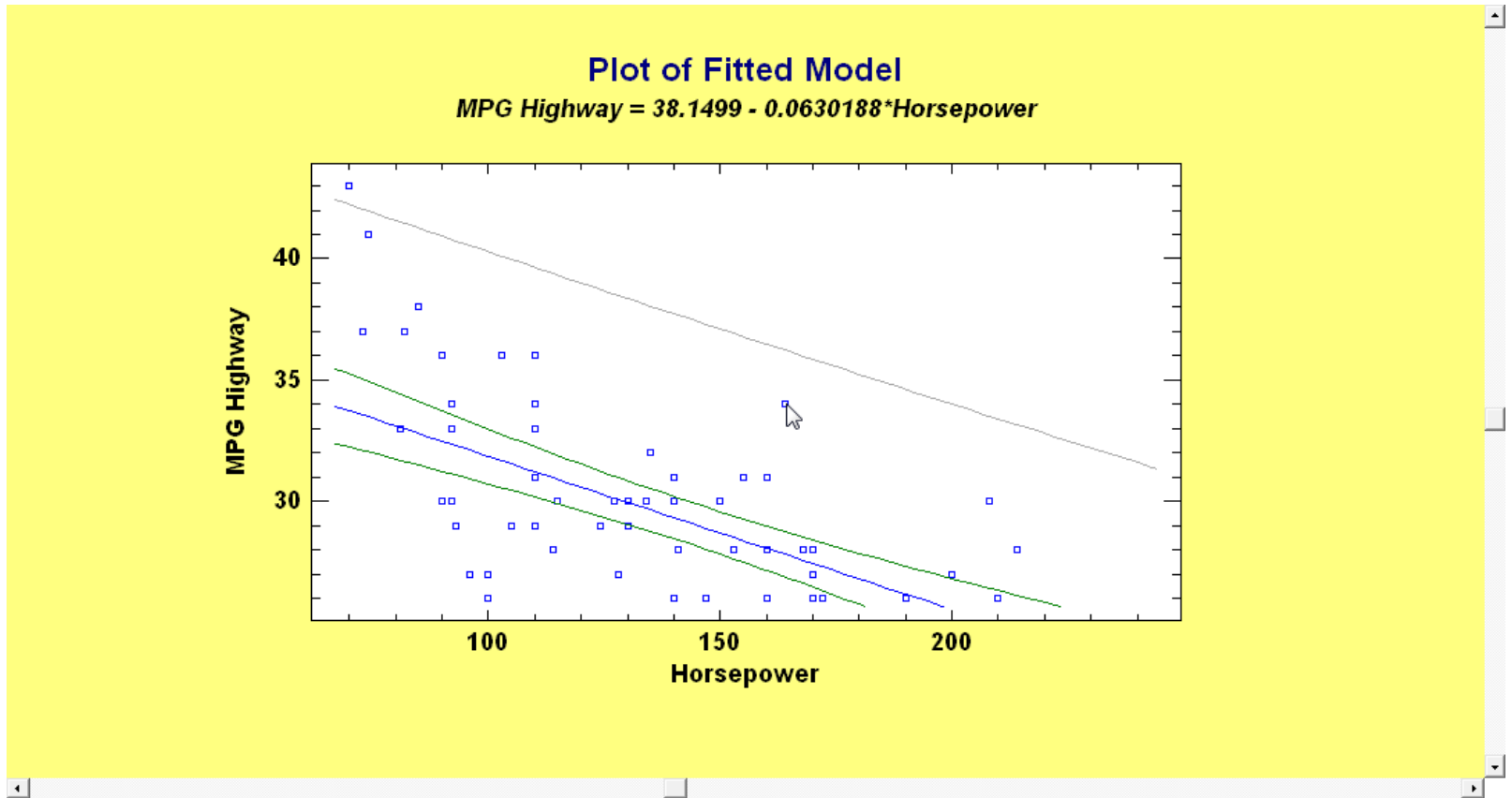# Statistical Tolerance Limits

Fitted Largest Extreme Value Distribution
mode=203.355, scale=53.9342

95-99 Limits
UTL: 492.62
LTL: 94.36

Mouse Wheel on Graphs

Expands graph around the current mouse position:

Specific Improvements

- May now import strings with more than 70 characters.
- Cluster Analysis: may now be run first time to cluster variables.
- Tabulation: now handles data with more than 40 characters.
- PCA: all component weights are now saved.
- PCA: standard and principal coordinates may now be saved to datasheet.
- XML script tags for legend position and size are honored.
- Taguchi designs from previous versions may be analyzed.
- Interactive applets now display in browser after StatPublish.
- GLM: *Exclude* button works on Plot of Fitted Model.
- MCA: may now specify supplementary points on first dialog.