



## **What's New in Version 8.1:**

**TIBCO Spotfire S+<sup>®</sup>**

**TIBCO Spotfire S+<sup>®</sup> Server**

**TIBCO Spotfire Miner<sup>™</sup>**

February 2009



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## Introduction

TIBCO is pleased to announce the general availability of **Spotfire S+<sup>®</sup>**, **Spotfire S+<sup>®</sup> Server**, and **Spotfire Miner<sup>™</sup> version 8.1**. Please read on for highlights of these releases.

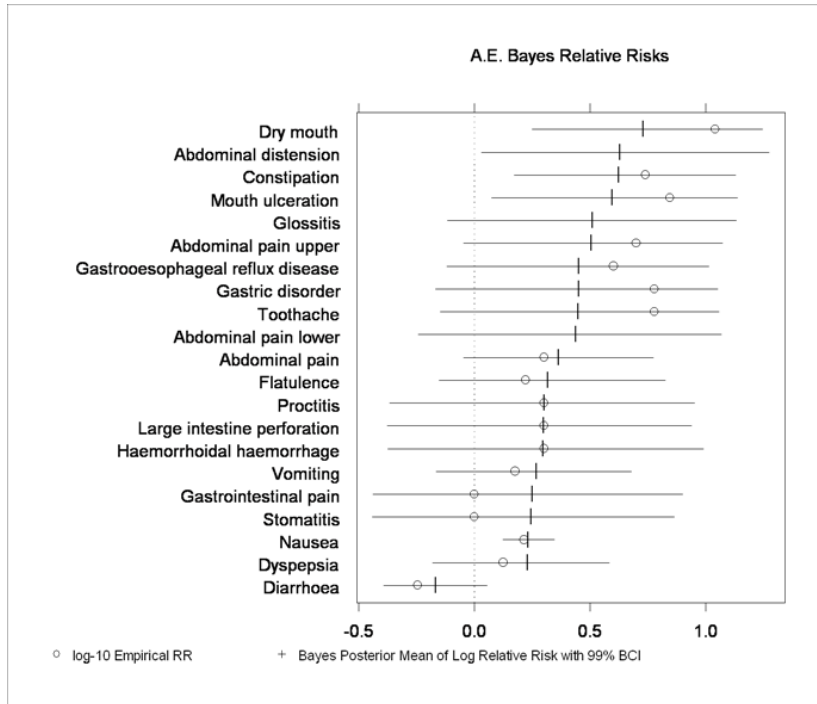
## Product Name Changes

Following TIBCO's acquisition of Insightful Corporation, the S-PLUS, S-PLUS Server and Insightful Miner products have been renamed to TIBCO Spotfire S+, TIBCO Spotfire S+ Server, and TIBCO Spotfire Miner. Through integration of the Spotfire and S-PLUS<sup>®</sup> language products, we are delivering a more comprehensive and powerful enterprise analytics platform, leveraging the strengths of visual and computational analytics to enable new collaborations between statistical experts and business professionals.

# Highlights of Spotfire S+ 8.1

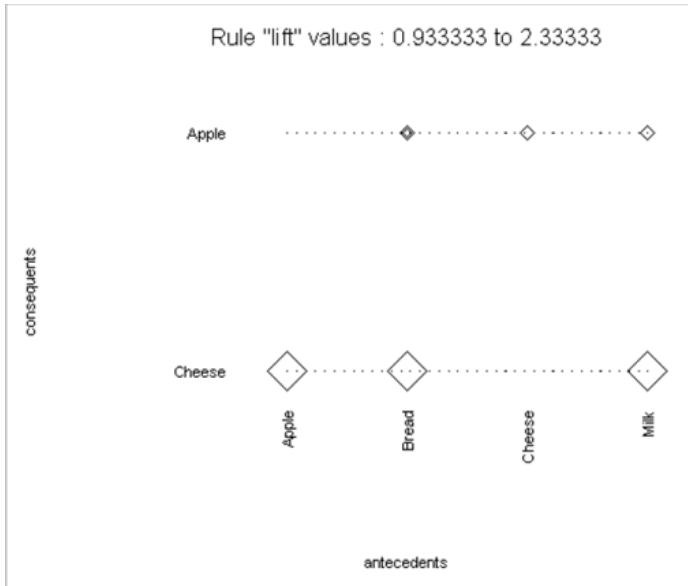
## New Statistics

**FlexBayes Package:** FlexBayes provides tools for modeling data using the Bayesian paradigm for statistical inference. Bayesian modeling can create more realistic models, provide a natural way to address missing data, and take advantage of prior information when doing analysis. FlexBayes has inbuilt examples of Bayesian response-adaptive clinical trial design, safety data analysis and hierarchical generalized linear models.



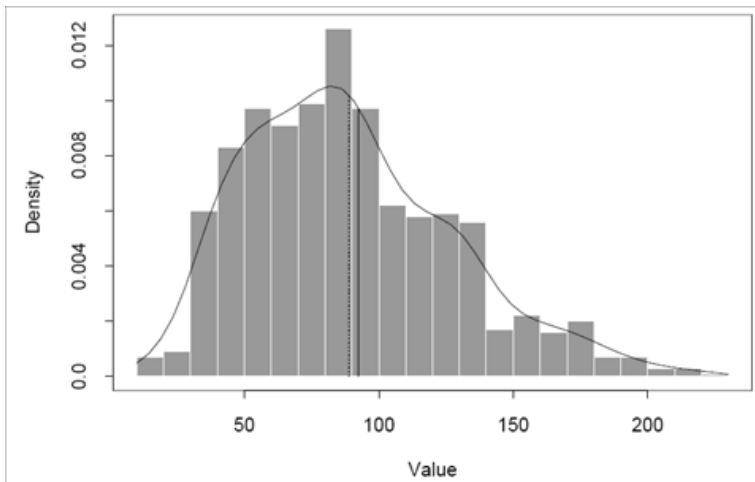
**Analysis of Adverse Events using Spotfire S+ 8.1 FlexBayes statistics**

**Association Rules:** Association Rules help uncover relationships between variables in large data sets, most commonly to detect purchase patterns (Market Basket Analysis), but also in many other areas, such as analyzing web site usage. Spotfire S+ 8.1 provides Association Rules as part of the bigdata library.



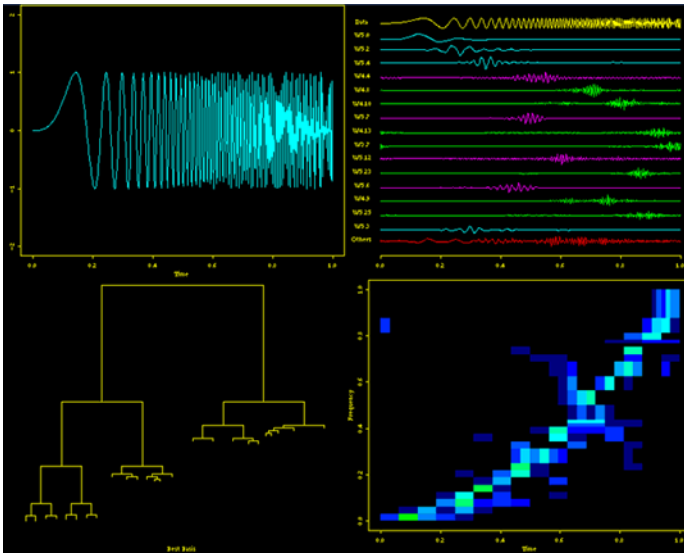
**Sample output from Spotfire S+ 8.1 Association Rules used to analyze customer purchasing behavior**

**Resample Package:** Resample offers a variety of resampling techniques, such as bootstrap and permutation tests, which enable the use of standard statistics on smaller data sets, provide more flexible modeling options, and offer graphical and numerical diagnostics for standard statistical assumptions. Resample includes bootstrap tilting which provides very accurate intervals and requires fewer samples than other methods.



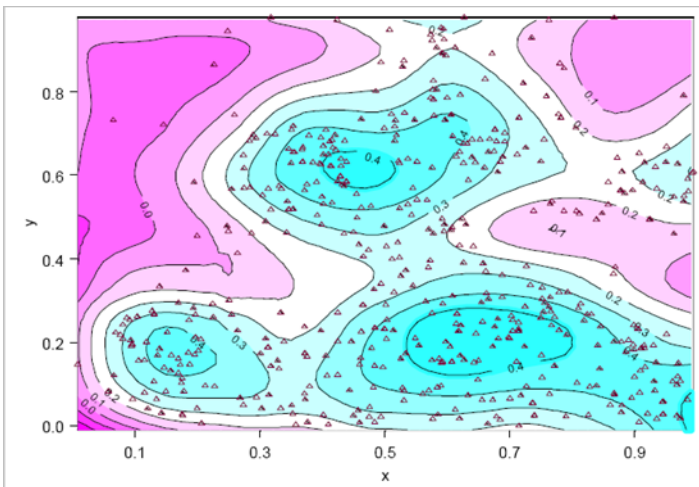
**Sample output from S+ 8.1 Resample package**

**Wavelets Package:** The Wavelets package provides advanced signal and image analysis, time series analysis, statistical signal estimation, and data compression analysis. Formerly sold as a separate module, Wavelets is now included in Spotfire S+.



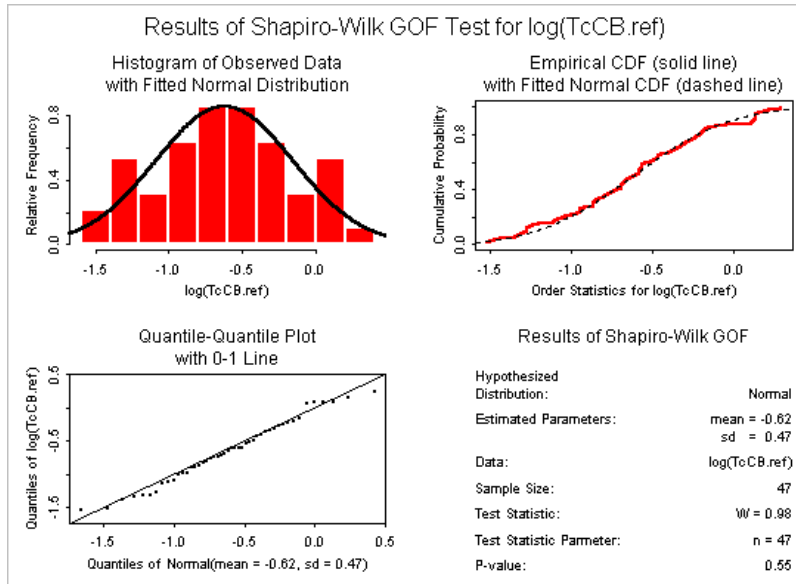
**Sample output from Spotfire S+ Wavelets package**

**SpatialStats Package:** SpatialStats enables the exploration and modeling of spatially correlated data, useful in many areas such as environmental sciences, natural resources management, and demographics. Formerly sold as a separate module, SpatialStats is now included in Spotfire S+.



**Sample output from Spotfire S+ SpatialStats package**

**EnvironmentalStats Package:** EnvironmentalStats, available for Windows, provides a set of powerful functions for performing graphical and statistical analyses of environmental data. Formerly sold as a separate module, EnvironmentalStats is now included in Spotfire S+.



Sample output from Spotfire S+ EnvironmentalStats package

## ***New Deployment and Integration Options***

**Remote Script Execution:** Scripts written in Spotfire S+ 8.1 can be sent to Spotfire S+ Server for execution using an interface in the Workbench or directly using Spotfire S+ functions. This enables you to offload computationally intensive scripts to a server, and to analyze data which cannot be downloaded off a server.

**Data Access Enhancements:** Spotfire S+ 8.1 provides functions for importing and exporting data via JDBC, opening up many new sources of data which can be analyzed. It also includes many other improvements to data access, including the ability to import and export data for Microsoft Excel 2007.

**RTF Reporting:** The rtfutils package enables the creation of highly-formatted reports containing Spotfire S+ tables and graphics for viewing in Microsoft Word.

ST-4: Individual and Summary Parent Serum Concentrations Following A Single Oral 100 mg Dose of Parent in the Fa Diabetes

Subject	Protocol Time (h)						
	0	1	2	4	8	12	24
7	0	39.0	190	142	71.9	37.4	3.97
8	0	36.7	179	134	68.8	33.9	3.86
9	2.15 <sup>a</sup>	34.5	170	128	64.9	33.4	4.13
10	0	30.8	153	113	58.7	28.1	5.74
11	0	31.1	151	113	58.1	28.2	4.81
12	0	25.7	149	101	62.1	25.7	0.738
n	6	6	6	6	6	6	6
Median	0	32.8	162	120	63.5	30.8	4.05
Mean	0.359	33.0	166	122	64.1	31.1	3.88
SD	0.879	4.75	17.0	15.4	5.51	4.46	1.69
%CV	245	14.4	10.2	12.6	8.60	14.3	43.6
Min	0	25.7	149	101	58.1	25.7	0.738
Max	2.15	39.0	190	142	71.9	37.4	5.74

<sup>a</sup>Positive value due to incomplete washout from previous dose.  
Concentration: µg/mL  
Source: Appendix III-2

**Sample rich text tabular report generated with Spotfire S+ 8.1 and viewed with Microsoft Word**

**Package System Enhancements:** Spotfire S+ 8.1 provides many enhancements to the package system, including a menu item for downloading and updating packages, as well as support for exporting and creating user interfaces for packages.

**Removal of FlexLM License Management:** FlexLM license management has been removed from Spotfire S+ 8.1, making installation and support for large user communities even easier.

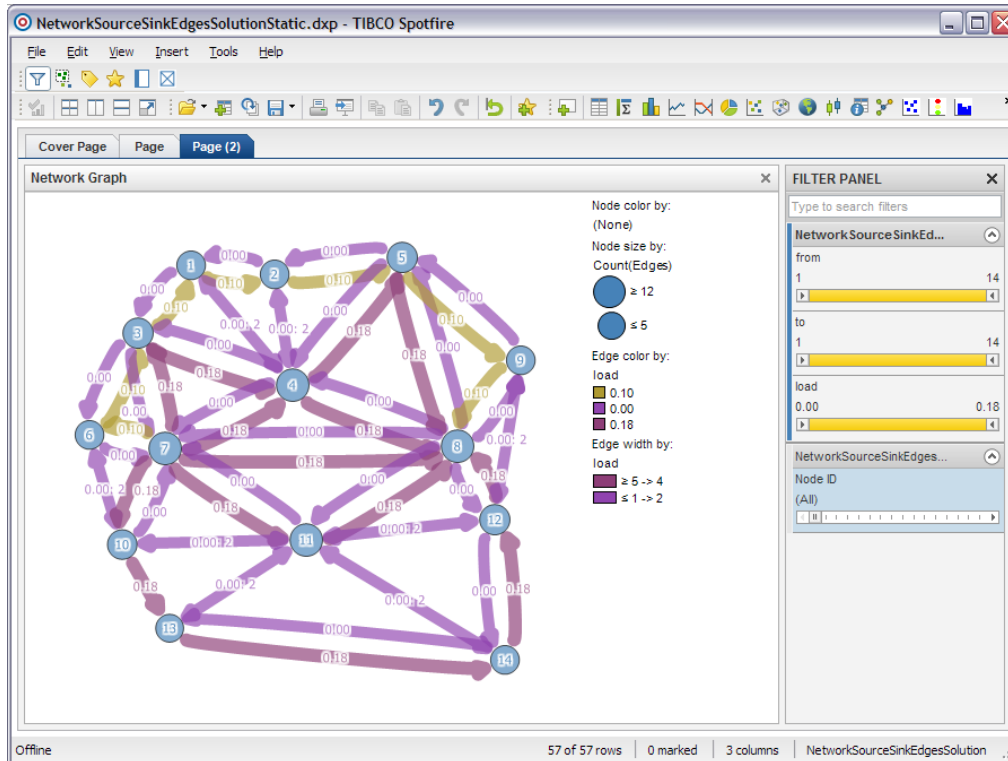
### ***And Much More...***

Spotfire S+ 8.1 also includes many quality enhancements, performance improvements for large data handling, usability enhancements for the S+ Workbench, and increased compatibility with R, making it even easier to create packages which can be run in both R and Spotfire S+.

# Highlights of Spotfire S+ Server 8.1

## Spotfire Integration

Easily integrate custom graphics, statistics, predictive analytics, and numerical optimizations into Spotfire applications using Spotfire S+ Server. Visually explore and interact with the results of your computational analysis, and easily update the analysis based on user input. The Spotfire Enterprise Analytic platform makes it easier to communicate with business professionals in your organization and to provide them the tools they need to leverage the insights from your models to make better decisions.



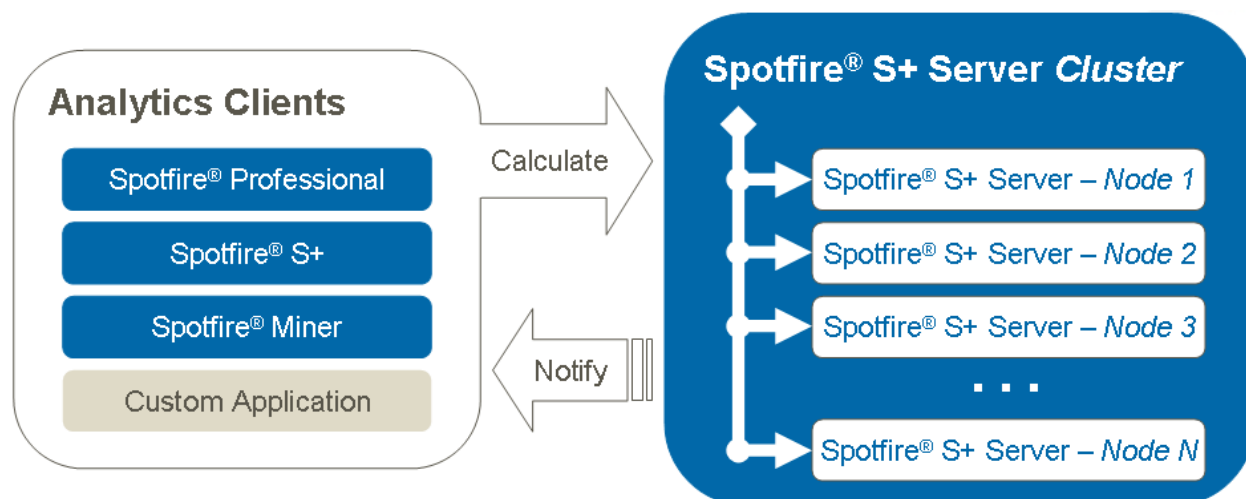
**Power transmission path optimization calculated using Spotfire S+ Server and TIBCO Spotfire® NuOpt for S+ and visualized in TIBCO Spotfire® Professional. In this example the user of Spotfire Professional can adjust the bandwidth for transmission using a slider filter device, which automatically requests a new optimized path under that constraint.**

## New Deployment Options

**Remote Script Execution:** Write, test and debug scripts in Spotfire S+ 8.1, then remotely execute them on Spotfire S+ Server using an interface in the Workbench or by using new Spotfire S+ Server API functions directly in your code. This enables you to offload computationally intensive scripts to the Server, or to analyze data accessible only on the server.

**Cluster Management:** Easily expand your analytic bandwidth by dynamically adding new nodes to your Spotfire S+ Server cluster, ensuring the availability, reliability, and scalability of your computational services. Spotfire S+ Server queues and distributes analytics requests across the available servers in the cluster.

**Notification:** Through the new Notification API, Spotfire S+ Server can now asynchronously notify clients of job completion, allowing clients to more reliably and efficiently track job status.



Enhanced cluster management in Spotfire S+ Server 8.1 makes it easy to expand and manage your cluster of analytic applications.

## ***Integration Enhancements***

**API Enhancements:** The Java and C# APIs of Spotfire S+ Server have been unified, making cross-platform application development easier.

**C# and Java Application Integration Tutorials:** New tutorials published on the Spotfire Technology Network (<http://spotfire.tibco.com/stn>) provide a guided, step-by-step approach for creating applications with Spotfire S+ Server, making it easier to integrate computational analytics into your applications.

## ***Administration Enhancements***

**Easier Installation:** One-click, zero-configuration install minimizes installation effort and simplifies expansion of your cluster.

**System Monitoring:** JMX-enabled remote server monitoring and configuration provides an industry-standard way of administering your Spotfire S+ Server system.

**Centralized Job Management:** A centralized job queue with administrative views makes it easy to track job status on a single system or across a cluster.

**Scheduled Maintenance Services:** Configurable services routinely clean the job queue, reducing the effort to maintain your system.

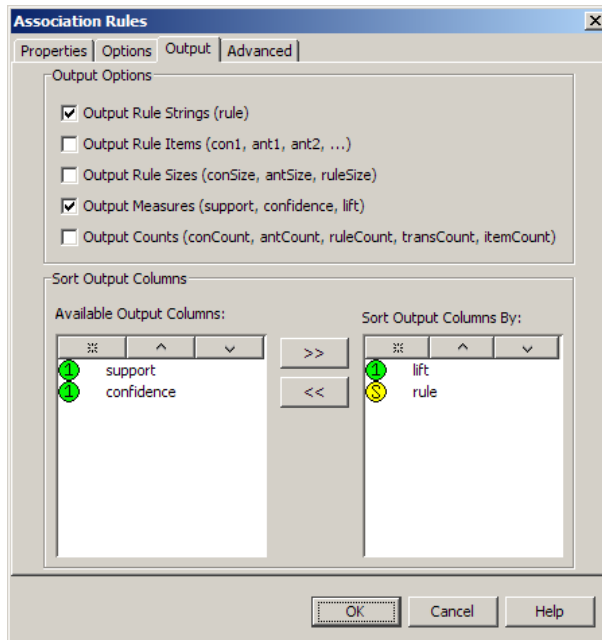
Job ID	Status Code	Returns Value?	Returns Text Output?	Has Errors?	Has Warnings?	Code	Server Instance	Created By	Created Timestamp	Scheduled Timestamp	Engine Time (ms)	Server Time (ms)	Prep Time (ms)	Queued Time (ms)
12	DONE (2)	true	true	false	false	search()	VMWIN01		Mon Feb 02 15:01:44 PST 2009	Mon Feb 02 15:01:44 PST 2009	140	281	1000	31
10	DONE (2)	true	true	false	false	search()	VMWIN01		Mon Feb 02 14:57:07 PST 2009	Mon Feb 02 14:57:07 PST 2009	125	234	1001	47
9	DONE (2)	true	true	false	false	1+8	VMWIN01		Mon Feb 02 14:54:31 PST 2009	Mon Feb 02 14:54:31 PST 2009	625	750	1001	47
6	DONE (2)	true	true	false	false	1+2	VMWIN01		Mon Feb 02 14:49:42 PST 2009	Mon Feb 02 14:49:42 PST 2009	156	297	1001	31

Job queue interface in Spotfire S+ Server 8.1

# Highlights of Spotfire Miner 8.1

## New Statistics

**Association Rules:** Association Rules help uncover relationships between variables in large data sets, most commonly to analyze customer behavior such as purchasing patterns (Market Basket Analysis), but also in many other areas, such as web site usage. Spotfire Miner 8.1 provides an Association Rules node for modeling.

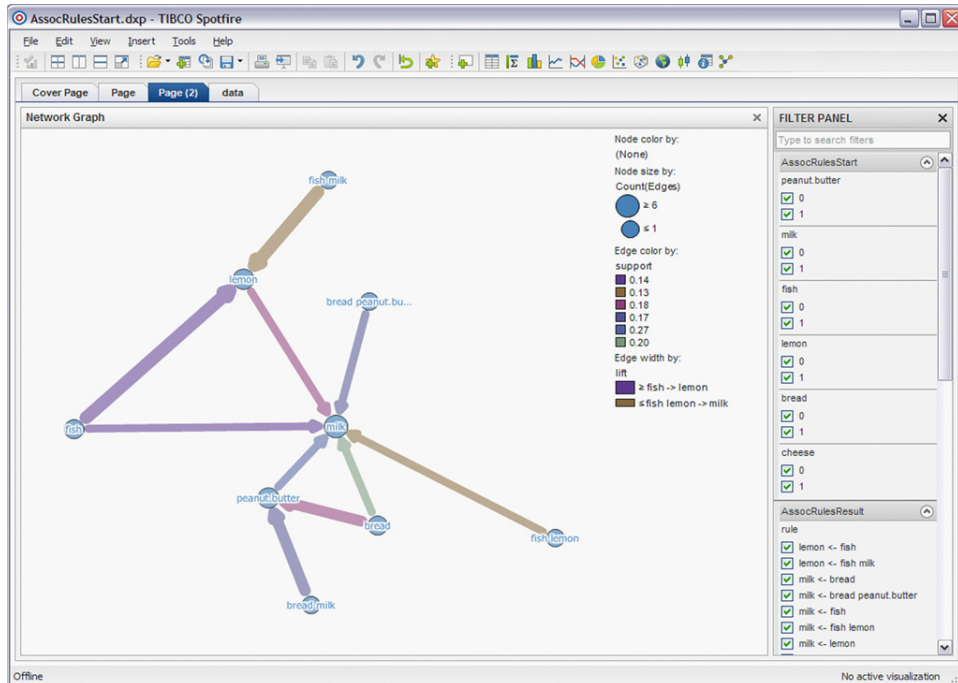


Properties dialog for new Association Rules node in Spotfire Miner 8.1

**Additional statistics in S+ 8.1:** Spotfire Miner 8.1 can take advantage of the new statistics listed above in Spotfire S+ 8.1 such as FlexBayes.

## Spotfire Integration

In addition to new nodes to read and write Spotfire Text Data files, Spotfire Miner 8.1 provides examples of using Spotfire Professional to visualize, explore and share model results. The Spotfire platform makes it easier to communicate results with business professionals in your organization and to provide them the tools they need to make better decisions based on the insights from your models. For more information on Spotfire, check out <http://spotfire.tibco.com/tour>.



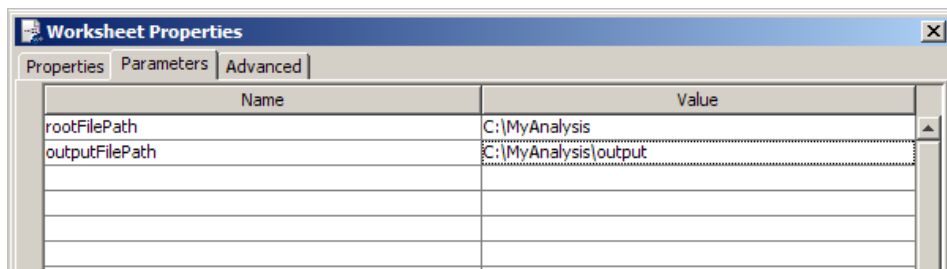
Data output from Spotfire Miner Association Rules visualized in Spotfire Professional with TIBCO Spotfire Network Analytics.

## New Deployment and Integration Options

**Custom Java & C++ nodes:** Spotfire Miner now supports custom nodes written using Java and C++.

**Remote Script Execution:** Leveraging the new functionality in Spotfire S+, Miner workflows can execute S+ scripts remotely on S+ Server to offload and distribute intensive jobs. The Spotfire Miner workflow interface provides a convenient way to organize and track the progress of these jobs.

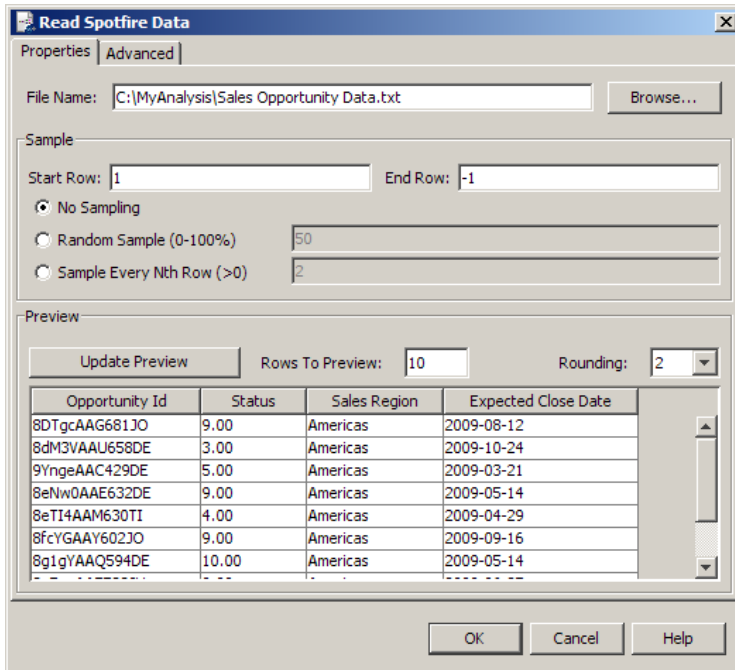
**Global Worksheet Parameters:** Spotfire Miner users can now set global worksheet parameters as a property of a workflow. These parameters can be accessed by interactive and batch applications, and open up new flexibility and reusability for workflows.



Detail of setting global parameters in Worksheet Properties dialog

## Data Import/Export and Data Preparation Enhancements

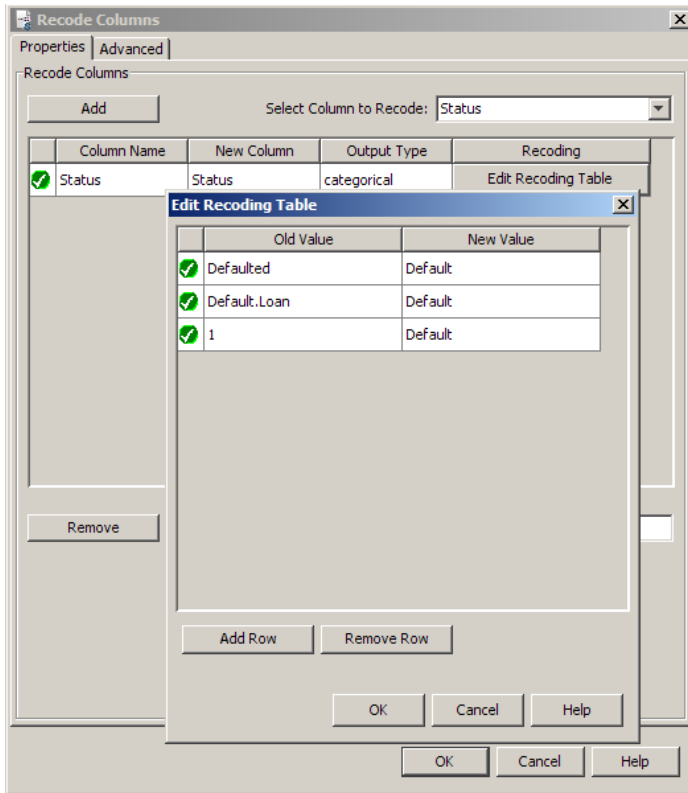
**New Data File Types:** Spotfire Miner 8.1 provides nodes to access new data formats, including Spotfire Text Data, Microsoft Excel 2007, Microsoft Access 2007, and Matlab 7 data files.



**Importing a Spotfire Text Data file using Read Spotfire Data node in Spotfire Miner 8.1**

**JDBC:** Spotfire Miner 8.1 can also import and export to JDBC using the sjdbc library in Spotfire S+ 8.1, opening up many new data sources for analysis.

**Recode Values:** Handling and preparing data from multiple sources is now easier, allowing you to change the values in a column to a new value, including renaming the levels of a categorical variable.



**Using the Recode Column node to handle multiple values in the same column**