



White Paper

What's New in BarTender 9.1

The brand new Security Center,
expanded reprint functionality,
new bar codes, and more!

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What's New in BarTender v9.1

The most important new features introduced with BarTender 9.1 are:

- New, multi-level security functions, including the new BarTender Security Center.
- Integration of reprint functionality directly into Printer Maestro.
- Logging of events from Printer Maestro.
- Four new logs to view in History Explorer.
- Improved handling of Asian text characters.
- Support added to BarTender for improved international character encoding in a number of 2D bar code symbologies.

New and Improved Security Features

The brand new “BarTender Security Center” adds numerous advanced security functions to the Enterprise editions of BarTender. In addition, the newly-added ability to lock down individual label formats using a password is being provided in both Enterprise and Professional editions.

Understanding Previous Security Support

Prior to BarTender 9.1, security within BarTender depended on just two capabilities.

The “Print-only” Password

Prior to BarTender 9.1, any one copy of BarTender could be forced into a “Print-only” mode just by entering a “Print-only” password into BarTender. Thereafter, any user that opened a label format using that copy of BarTender could still view the label on screen and print it. However, the user could not *modify* the label format without knowing the password. This is not a powerful security measure because anybody that knows how to copy a label format can move one to another computer on which BarTender is running, but perhaps not configured to use Print-only Passwords. In addition, Print-only Passwords support only two classes of security:

- Users that know the Print-only Password.
- Users that do not.

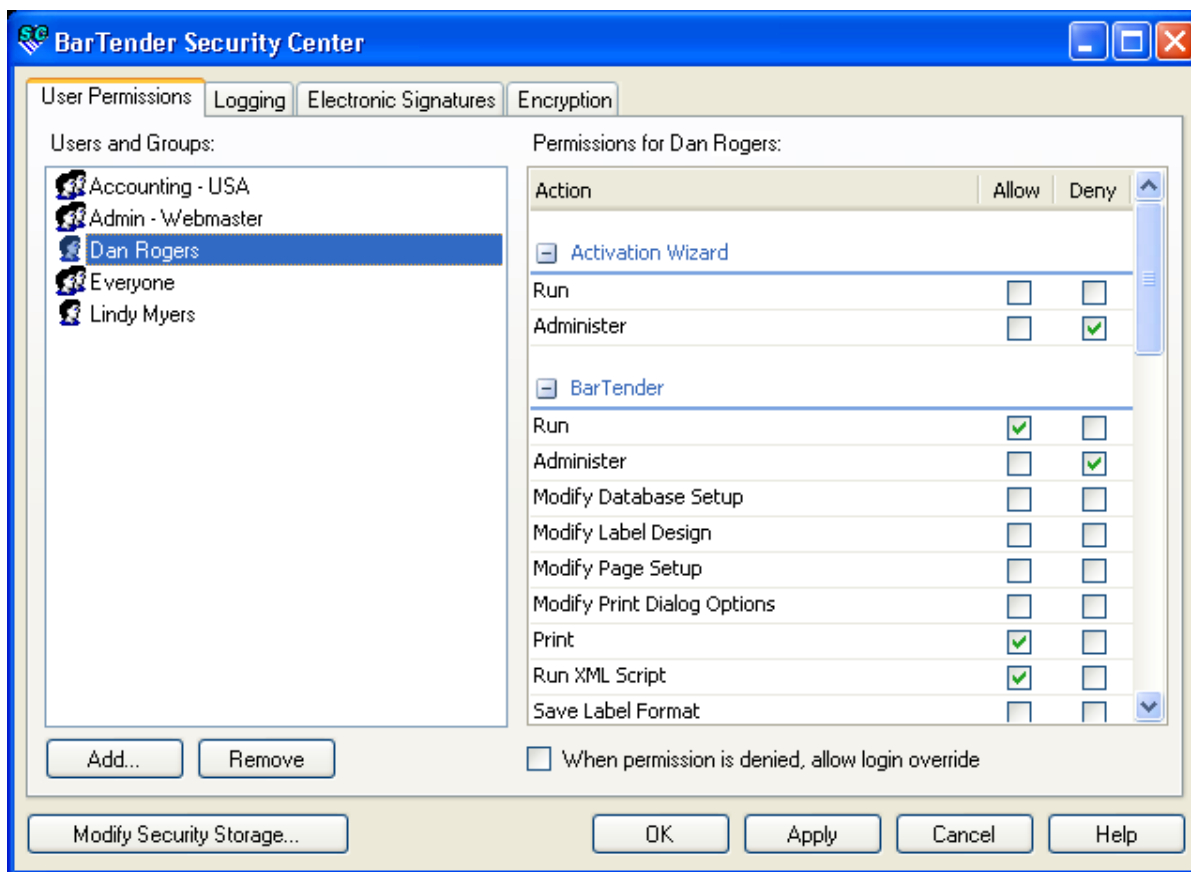
Event Logging and History Explorer

With the introduction of Event Logging in Enterprise editions of BarTender 9.0, along with the log viewing capabilities of the associated “History Explorer” application, system administrators could review certain past activities, including who printed what labels. This means that, if and when rogue label printing activity is suspected, administrators can review a very detailed log of exactly what was printed, when it was printed, and who printed it. However, this is arguably not a true “security feature,” because it does not offer prevention, except by threat of apprehension after the act.

A Major Step Forward in Secure Labeling

With BarTender 9.1, system administrators now have multiple ways to “lock down” and control access to the various components and features in the BarTender Label Management Suite. Four classes of security are now offered.

- **User-based Security (new):** The most powerful security features in the BarTender Label Management Suite are now provided by the new “Security Center” application. It allows system administrators to provide different users with different levels of access to just about every module and function. (Enterprise editions only. Some features require Enterprise Print Server.)
- **Label Format-based Security (new):** Any label format can now be assigned a (fully encrypted) password which “locks down” that label format regardless of where it might get copied or moved to. At the System Administrator’s option, all access to the label format can be password protected, or only selected capabilities. (Available in Professional and all Enterprise editions.)
- **BarTender-based Security (improved):** A copy of BarTender running on an individual PC can still be set to require a “Print-Only Password.” Now, however, administration of the password is much easier than in past versions of BarTender. (Available in Professional and all Enterprise editions.)
- **Label Format Encryption (new):** The ability to encrypt a label format is actually a subset of the new BarTender Security Center. However, this function can be applied to the other two security methods as well, thereby making them even more secure. With Label Format Encryption, you can’t gain access to a label format just by copying it to a non-secure location. (Available in all Enterprise editions.)



The new Security Center lets administrators specify a variety of security settings within their Enterprise editions of the BarTender Label Management Suite.

For more detailed information on security features provided by the BarTender Label Management Suite, please see our Label System Security white paper at:

http://www.seagullscientific.com/ftp/whitepapers/WhitePaper_LabelSystemSecurity.pdf

Essential for Compliance with CFR 21, Part 11 Regulations

One United States agency that has demanded high standards in the area of electronic security is the Food and Drug Administration (FDA). Their CFR 21, Part 11 document describes in detail the access control, logging standards, and electronic signatures required to implement a “secure” electronic record-keeping system. Since BarTender is almost always used as part of a larger software system, simply installing BarTender does not in and of itself ensure compliance with any one security standard. However, BarTender now provides the core security functions required in the area of label design and printing to support implementation of a secure labeling system. For more detailed information on the relevant portion of the United States Code of Federal Regulations, please see:

http://www.fda.gov/ora/compliance_ref/Part11/

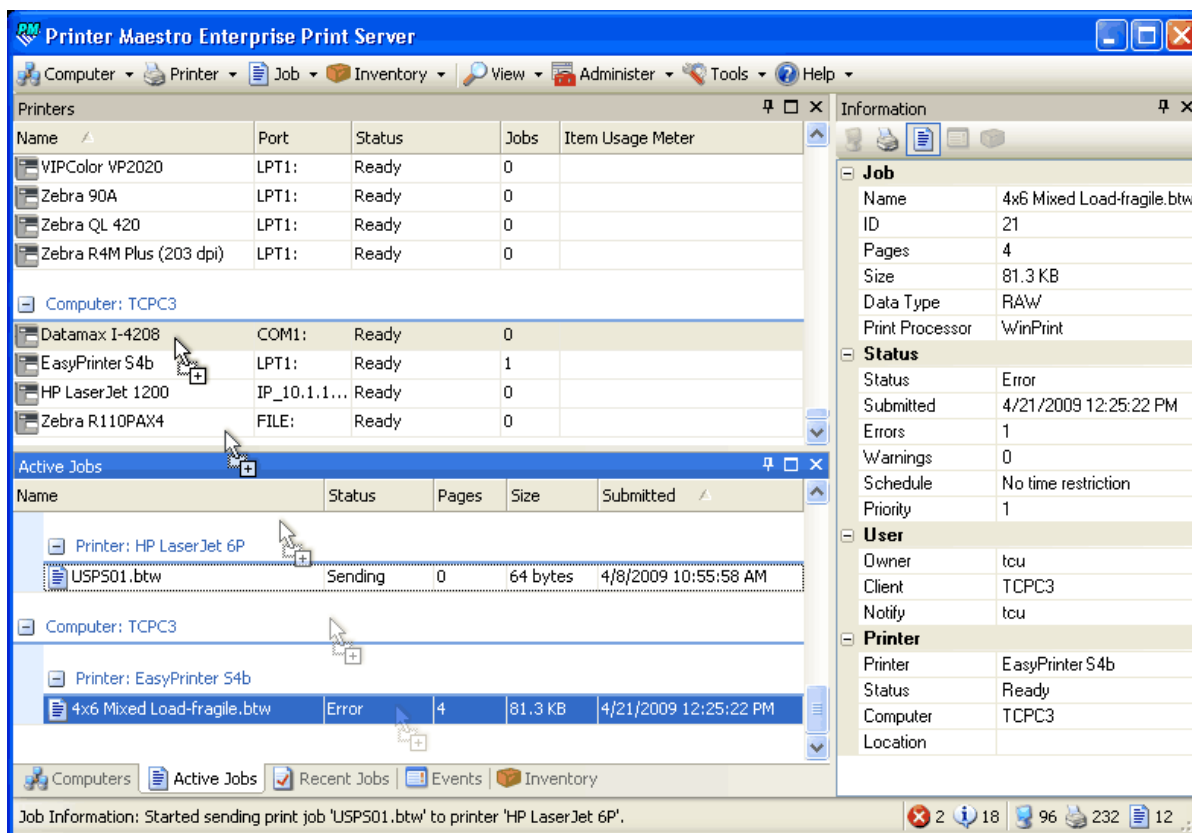
Printer Maestro Improvements

In the event that a BarTender print job gets “stuck” due to a printer failure or your printer running out of labels, you can now reprint your label jobs from right inside Printer Maestro using a single “drag and drop” mouse motion. In addition, Printer Maestro’s new ability to optionally log a variety of information to the BarTender System Database allows for powerful new print job management and auditing features.

Easy, Convenient Reprint from within Printer Maestro

Imagine that a Print job on a network fails, perhaps due to a printer running out of ribbon or a hardware problem with the printer. This causes the associated print job in the Active Jobs pane of Printer Maestro to display “Error” and become what is commonly referred to as “stuck in the print queue.” Deleting a “stuck” job and starting a new one has traditionally required multiple steps. Furthermore, simply “restarting” a print job within a label software program is not as straightforward as you might think. That is because, if serial numbers or values being read from a database have changed, your reprinted labels will not be identical to the original print job.

Fortunately, the logging functions previously added to version 9.0 of the BarTender Suite fully address the challenge of label data possibly changing between jobs. And now, with version 9.1, the BarTender reprint process is integrated directly into Printer Maestro, allowing for reprint using a simple “drag and drop” motion.



Printer Maestro, as offered in version 9.1 of the BarTender Suite, now lets you delete and resubmit failed print jobs with a single, quick motion.

To best understand and appreciate the intelligence and convenience of the reprint function now provided with Printer Maestro, consider the previously available methods.

The Traditional Method of Reprinting Failed Jobs

Whether you are using Windows or another operating system, the response to a failed print job is pretty basic:

You delete the old job (if it is “stuck” in a print queue) and then you print again.

The print job error recovery sequence using the Windows Printers and Faxes folder (and the method required when using BarTender prior to version 9.0) is as follows:

1. Bring up the **Printers and Faxes** folder in the **Start** menu.
2. Double-click on the printer associated with the “stuck” job to display the queue for that printer.
3. Right-click on the failed print job and select **Cancel**.
4. Using the original software application that printed the job, either launch another print job to the same printer (if you have fixed the problem) or specify a different printer.

The reprint process in step 4 above works fine if you are printing from a static document, such as you might when printing from MS-Word or Excel. However, if you are printing using a label program, such as BarTender, and your label design performs automatic serialization or reads values from a database, some of your label data may have changed since the original print job. Obviously, that would mean that the labels you reprint can differ relative to the data used for the original print job. Fortunately, the logging functions introduced with BarTender 9.0 fully address this problem by optionally recording the data actually used for each label job.

How Reprinting Improved with BarTender 9.0

Version 9.0 (the *previous* version) of the BarTender Label Management Suite introduced a variety of new capabilities that made canceling print jobs and restarting them easier and more reliable, as shown in the following steps:

1. Instead of using the Windows and Faxes folder, run Printer Maestro. (Many of Printer Maestro's job management functions apply to *all* print jobs, not just those from BarTender.)
2. Right-click on the failed print job in the **Active Jobs** pane of Printer Maestro and select **Cancel**. This will move the job from the **Active Jobs** pane to the **Recent Jobs** pane and display a status of "Cancelled."
3. If the job that you cancelled was originally printed by BarTender, load the companion Reprint Console application, navigate to and right-click on the archived record corresponding to the print job that failed, and select **Reprint**.

Although the Reprint Console ultimately uses BarTender to perform its printing, the source of the label data is completely different. The Reprint Console will reach out into the BarTender System Database and read back the exact label data and graphics used for the original print job. In contrast, using BarTender directly (without Reprint Console) would access the same data sources but not necessarily the same data. If any serial numbers or database values have changed, then your labels will change TOO!

The New, Single-Touch Shortcut for Reprinting Failed Jobs

Version 9.1 of the BarTender Label Management Suite consolidates the 3-step method described above for BarTender 9.0 into a single, simple "drag and drop" motion:"

1. Within Printer Maestro, simply "drag" the failed BarTender print job from the **Active Jobs** pane and "drop" it on top of *any* available printer in the **Printers** pane.

If you have already repaired the source of the original problem that caused the print job to stop, you can optionally use the same printer again. Alternatively, you can select any other available printer (even a totally different brand), as long as it is already loaded with the same size labels. After your simple one-step mouse motion above, the next steps are performed for you *automatically*:

2. Printer Maestro cancels the BarTender print job that is “stuck” in the **Active Jobs** pane (causing it to move to the **Recent Jobs** pane, where it displays as “Cancelled”).
3. Printer Maestro then communicates directly with a selected copy of BarTender, telling it which logged print job needs to be reprinted. (More in the next section about which copy of BarTender actually performs the printing.)
4. Printer Maestro then pops up a **Reprint** dialog. (This introduces the only manual step after the initial “drag and drop,” and only so you can optionally change your mind about which copy of BarTender and which printer you want to use.)
5. If desired, optionally select a different printer and copy of BarTender, and then simply press the **Print** button to begin reprinting your failed print job.

Multi-Select and Right-Click Fully Supported

In the above procedure, we only described the drag and drop of a *single* stalled print job. However, it is not unusual for additional jobs to also get stuck once the first one fails. Printer Maestro handles this situation as easily as it does the single-job failure: You just hold down your keyboard's Ctrl key while you click on and select *multiple* print jobs. Then, with your Ctrl key still held down, simply drag them all at once to the new printer.

As an alternative to “drag and drop,” Printer Maestro also supports use of the “right-click” mouse button to pop up a list of options, one of which will be “Move.” The Move dialog is the same one that pops up when you perform the drag and drop action, except it has no way of knowing in advance which printer you intend to use. After you manually select the new printer and the computer whose copy of BarTender you want to use, simply press the **Print** button to start your stuck print jobs from the beginning using the newly-selected printer.

Time-Saving, Problem-Solving Enterprise Intelligence

In step 3 above, we referred to the “selected copy of BarTender,” which merits some clarification. In fact, this represents one of the most powerful and exciting aspects of Printer Maestro's reprint intelligence. After Printer Maestro cancels the failed print job:

- Printer Maestro automatically looks on your network for the copy of BarTender that originally attempted the print job. If that copy of BarTender is found, it is chosen as the default copy of BarTender for the reprint job.
- Alternatively, if there is a problem with the original computer or the associated copy of BarTender, the **Reprint** dialog instead defaults to the copy of BarTender running on the same computer as your local copy of Printer Maestro.
- In either case, before you actually press the **Print** button, you still have the option of manually selecting *any* copy of BarTender and any printer on your network.

Also Works for Reprinting "Recent Jobs"

So far, we have discussed both the "drag and drop" and "right-click" methods of handling print jobs that are "stuck" in Printer Maestro's **Active Jobs** pane. In addition, Printer Maestro also supports the reprint of past jobs from the **Recent Jobs** pane. Note that all print jobs eventually end up in the **Recent Jobs** pane (at least for a while), regardless of whether they were originally successful or failed while they were still active jobs. Regardless, you can click on any job (or combinations of jobs) in the **Recent Jobs** pane and use either the "drag and drop" or "right-click" method to print the exact same job(s) all over again.

Logging Functionality Extended to Printer Maestro

In September 2008, version 9.0 of BarTender introduced radically more powerful functions for logging data about print jobs and associated events. Among the new modules were the BarTender System Database, for storing the logs, and the History Explorer for navigating to and auditing them. However, this functionality only applied to *BarTender* print jobs and events.

Now, with version 9.1 of the BarTender Label Management Suite, logging capabilities have been extended to a number of additional modules, including Printer Maestro:

Extending Logging to non-BarTender Print Jobs

Previously, only BarTender could log information about print jobs. Now that Printer Maestro can also log print job information, you can record details about *any* job printed on your network (not just those from BarTender).

Logging Printer Events

Since its initial release in September of 2008, Printer Maestro has provided an **Events** tab within the **Active Jobs** pane that shows everything from simple informational messages, such as a print job being started, to warnings (such as a printer running low on labels), to errors (such as Printer Not Ready). Even printer events that do not occur during a print job are displayed, including a printer being renamed, added, deleted, or having its port changed. Now, with version 9.1 of the BarTender Label Management Suite, these events can be logged in addition to being displayed.

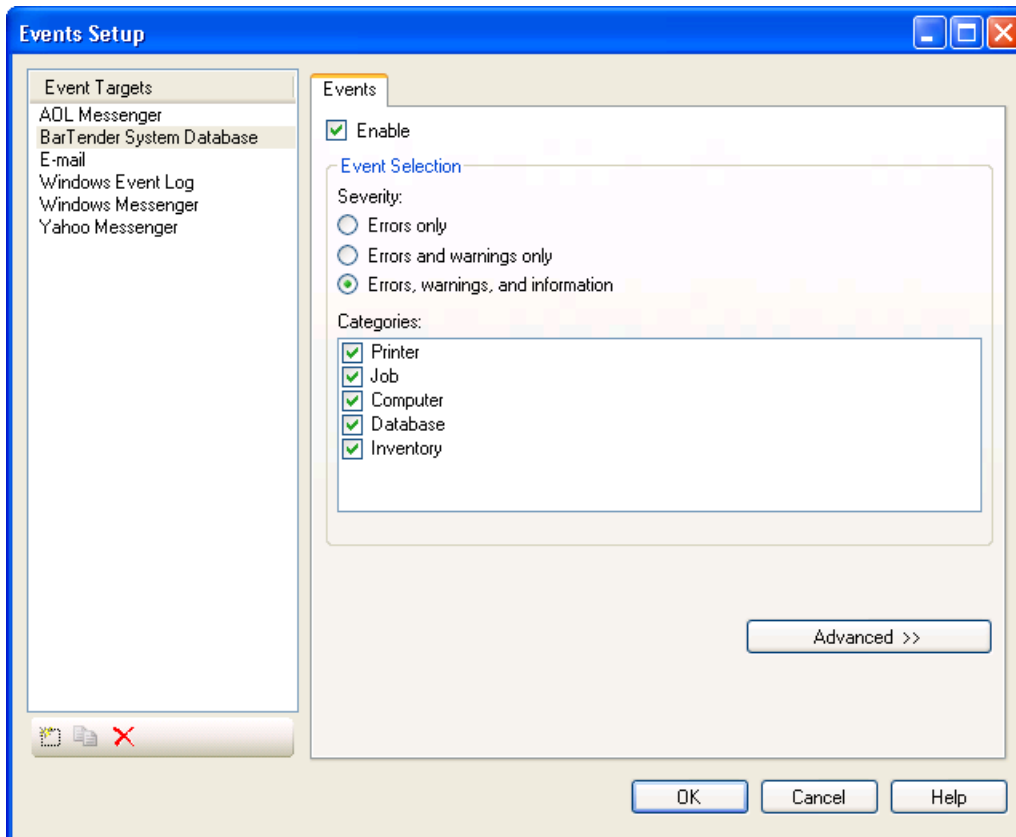
Logging Inventory Events

Inventory events include the creation, deletion, modification, receiving and usage of labels, ribbons, and other supplies for printers. The events logged can include simple informational messages, such as a quantity of label stock being received or warnings (such as labels being critically low in inventory). Support for the inventory tracking of printer media and other supplies is only available in the Enterprise Print Server edition of the BarTender Suite.

Turning on Printer Maestro Logging

To log from Printer Maestro, first make sure that you have properly established a connection to the BarTender System Database using the System Database Setup utility. Then, within Printer Maestro, enable event logging as follows:

1. In Printer Maestro's **Administer** menu, select **Event Setup**.
2. In the **Event Targets List**, select **BarTender System Database**.
3. In the **Events** tab, check the **Enable** checkbox.
4. Close the dialog by pressing **OK**.



Printer Maestro's Events Setup dialog lets you log a variety of different events to any of a number of targets, including the BarTender System Database.

New Views in History Explorer

With the introduction of new logging functions, we also need to introduce new views within History Explorer so that you can navigate to and view the logged information.

Remember that logging and the viewing of logs are only supported with the Enterprise editions of the BarTender Label Management Suite. The Enterprise and RFID Enterprise editions support the creation and viewing of logs local to each individual copy of BarTender. In contrast, the Enterprise Print Server edition allows for the creation and use of *centralized* logs that support multiple copies of BarTender running on a LAN or WAN.

Three New Views Associated with Printer Maestro

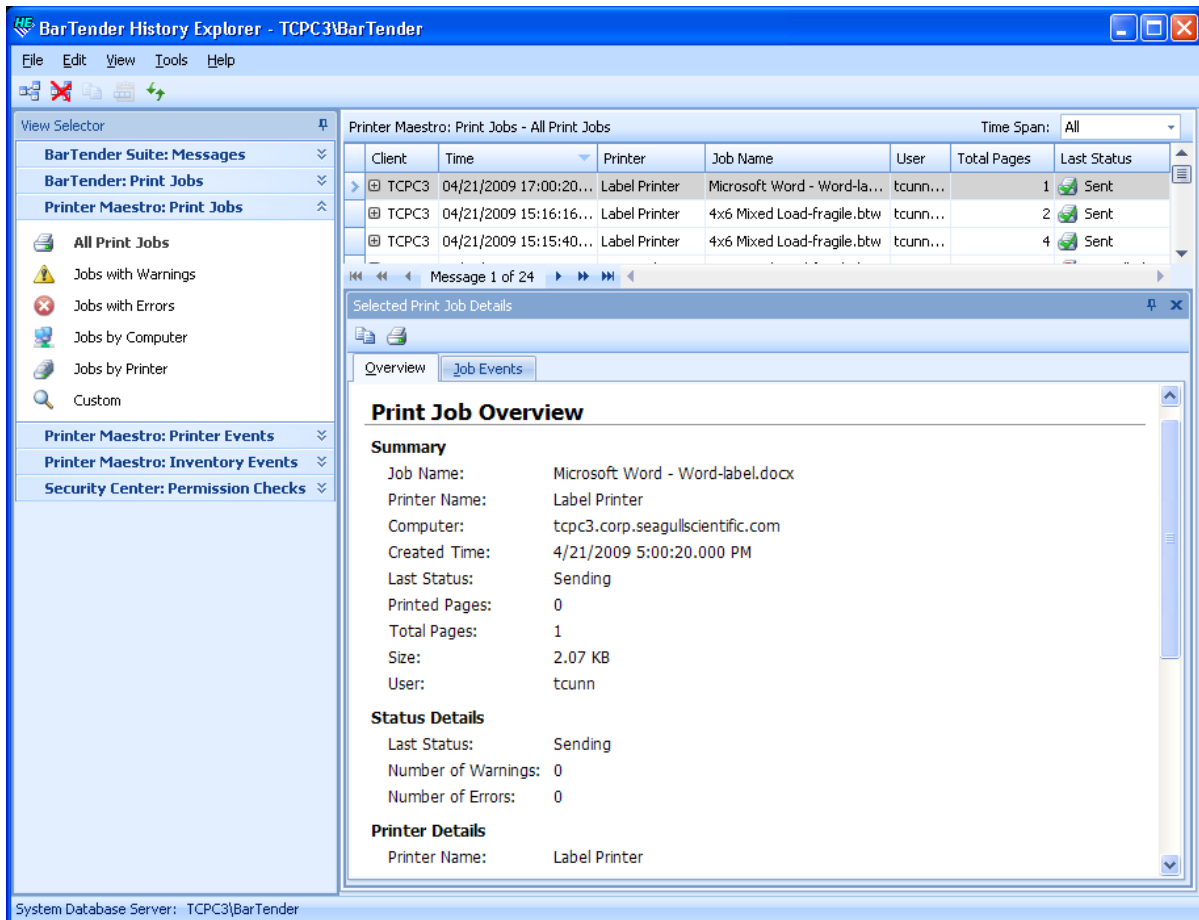
Three of the new view categories available in History Explorer are in support of the new Printer Maestro logging functions described in the previous section:



Three of the new views in History Explorer are dedicated to new Printer Maestro logging functions.

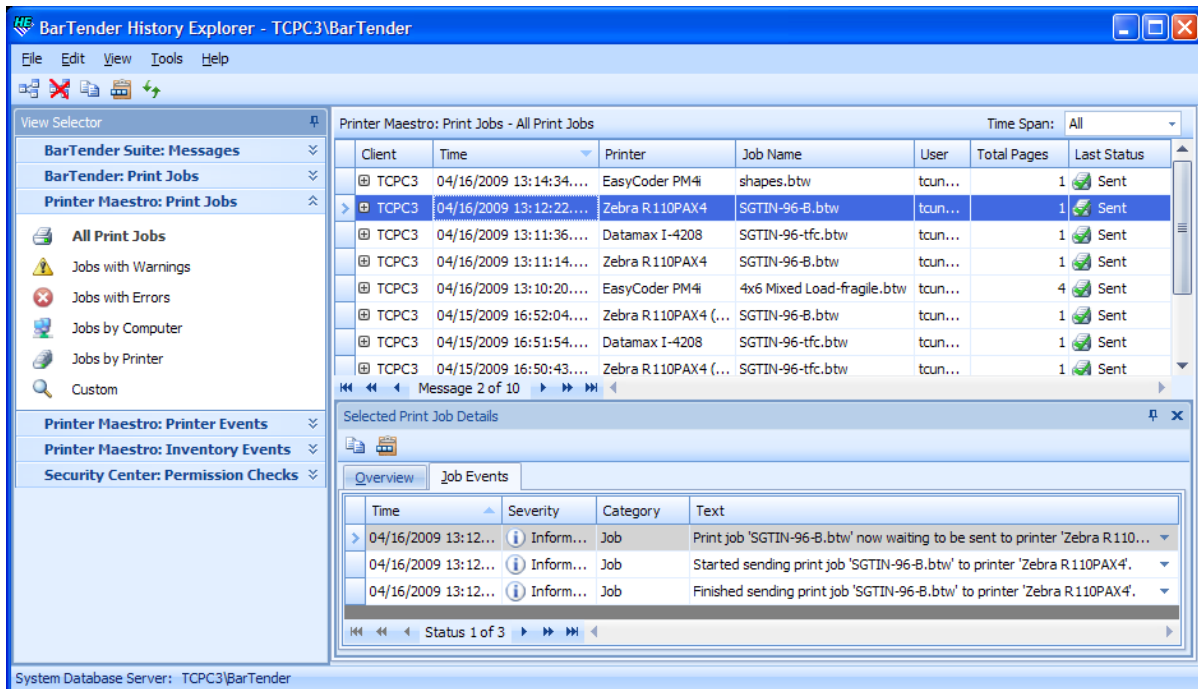
The "Printer Maestro: Print Jobs" View

BarTender was able to "log" information about print jobs for years, but only to text files. With version 9.0 of BarTender, released in September of 2008, much more logging detail was provided and support was introduced for a true SQL database log viewable using the new History Explorer application. Now, with the release of version 9.1 of the BarTender Label Management Suite, similar job logging functionality has been added to Printer Maestro. That means you can now log information about print jobs from *any* application on your Windows network, not just BarTender. These logs are viewed using History Explorer's "Printer Maestro: Print Jobs" view.



The “Overview” tab in History Explorer’s “Printer Maestro: Print Jobs” view shows you a variety of information about print jobs from any program (such as the print job from Word shown here) – not just BarTender.

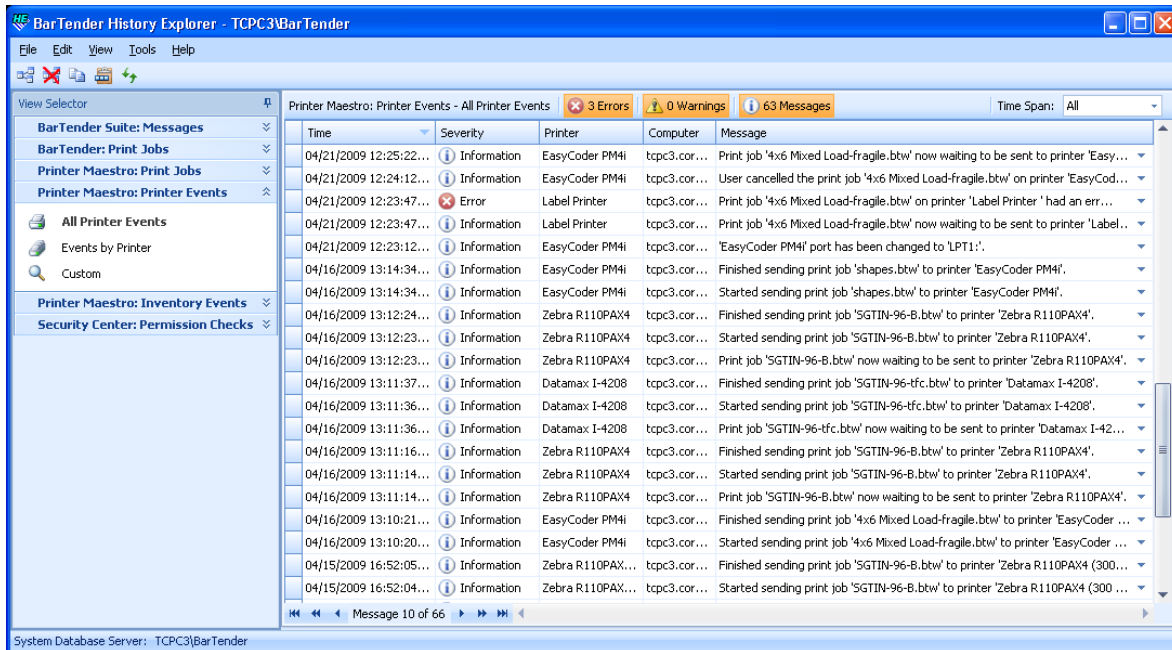
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The “Job Events” tab in the “Printer Maestro: Print Jobs” view displays events specific to the selected print job.

The “Printer Maestro: Printer Events” View

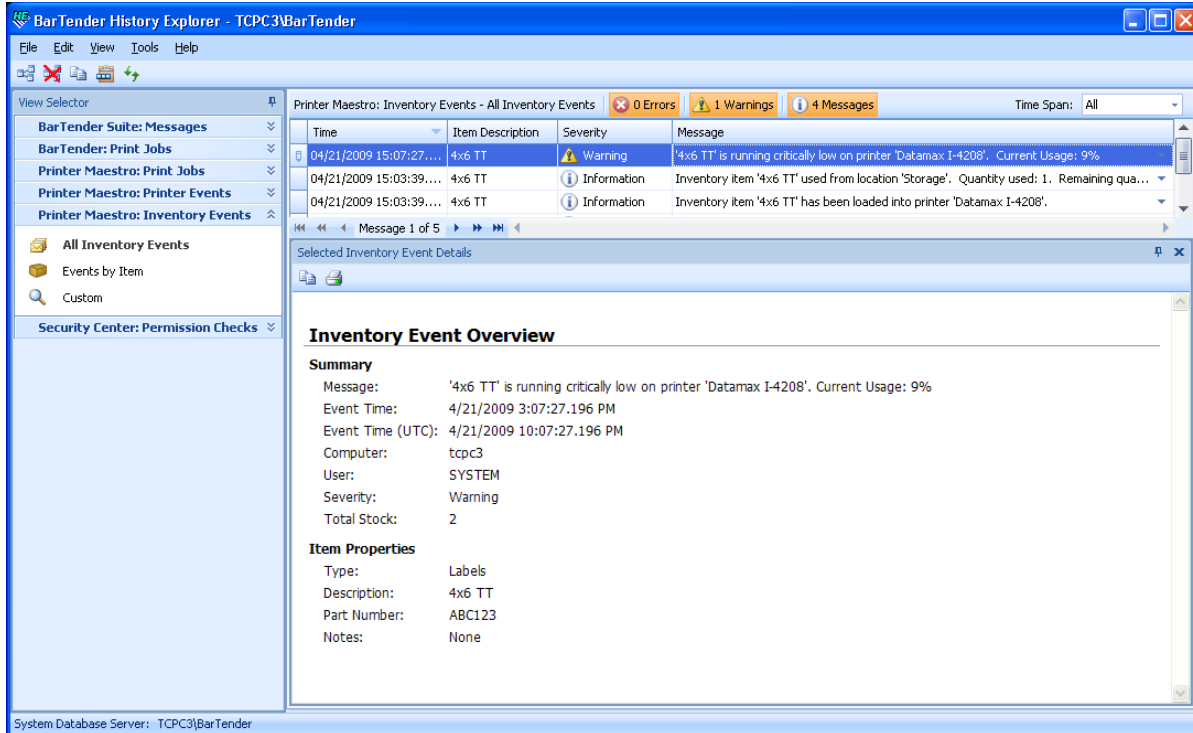
The “Printer Maestro: Printer Events” view simply displays a log of the same events that Printer Maestro at one point displayed in the **Events** tab of its **Active Jobs** pane.



The “Printer Maestro: Printer Events” log in History Explorer displays print job events that originally displayed in the Printer Maestro “Events” tab during printing.

The “Printer Maestro: Inventory Events” View

With the Enterprise Print Server edition of the BarTender Label Management Suite, Printer Maestro provides an **Inventory** function for tracking levels of labels, ribbons, and other printer supplies. Inventory events in Printer Maestro, such as receiving and using supplies can be logged to the BarTender System Database and the logs later viewed using the “Printer Maestro: Inventory Events” view within History Explorer.



The “Printer Maestro: Inventory Events” view in History Explorer lets you look back on important (and not so important) changes to the inventory levels of your printer supplies.

The “Security Center: Permission Checks” View

The new Security Center application now available in the Enterprise editions of the BarTender Label Application Suite includes the ability to log each attempt by a user to access an option that is not available to all users. When so enabled, Security Center will log:

- The name of the user that attempted to access the protected function.
- The time that the access attempt was made.
- The module in which the desired function resides.
- Whether or not the user was granted access.
- Whether or not an electronic signature or login override was required and, if so, whose user name and password was used.

These permission checks can subsequently be audited using the “Security Center: Permission Checks” view in History Explorer.

“Administer” Menu Introduced throughout Application Suite

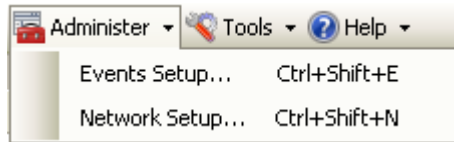
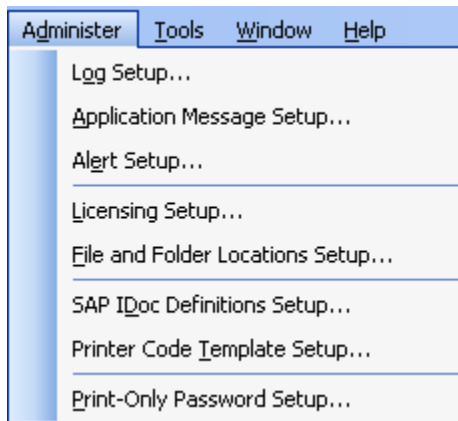
Prior to version 9.1 of BarTender, the **Tools** menu listed options that fell into three general categories:

- External utilities and programs that were listed for the purpose of convenient access from within BarTender.
- A variety of “Setup” dialogs used to control global application settings.
- Occasional miscellaneous options that end up here because they didn't obviously fit anywhere else.

Over the years, the **Tools** menu in BarTender gradually grew longer and longer. We also had some concern about this happening with other companion applications in the BarTender Suite. Complicating matters, dialogs used for global application settings were not always accessed from within the Tools menu, sometimes making them harder than necessary to find.

Version 9.1 of the BarTender Label Management Suite introduces a new **Administer** menu that offers numerous benefits:

- All of a given program's dialogs used for global application settings can now be accessed from within a single, centralized menu.
- This change was introduced across the entire BarTender Label Management Suite. That means that, no matter which application you are in, you know where to go to view and change that application's available global settings.
- This functional consolidation works hand-in-hand with the new BarTender Security Center to allow easy “lock down” of administrative control in any or all of the applications in the BarTender Suite.
- Finally, the options that remain in the **Tools** menu are now much more narrowly focused in function, now in fact really consisting mostly of “tools.”



New “Administer” menus in the BarTender Suite introduce some uniformity to the way in which administrative options are managed within each application. This also simplifies the lock-down of administrative functions by Security Center. (BarTender shown on left; Printer Maestro on right.)

Improved Handling of Asian Text

BarTender now supports the entry, reading and printing of an even wider selection of Asian characters.

Long-Standing Support for Asian Characters

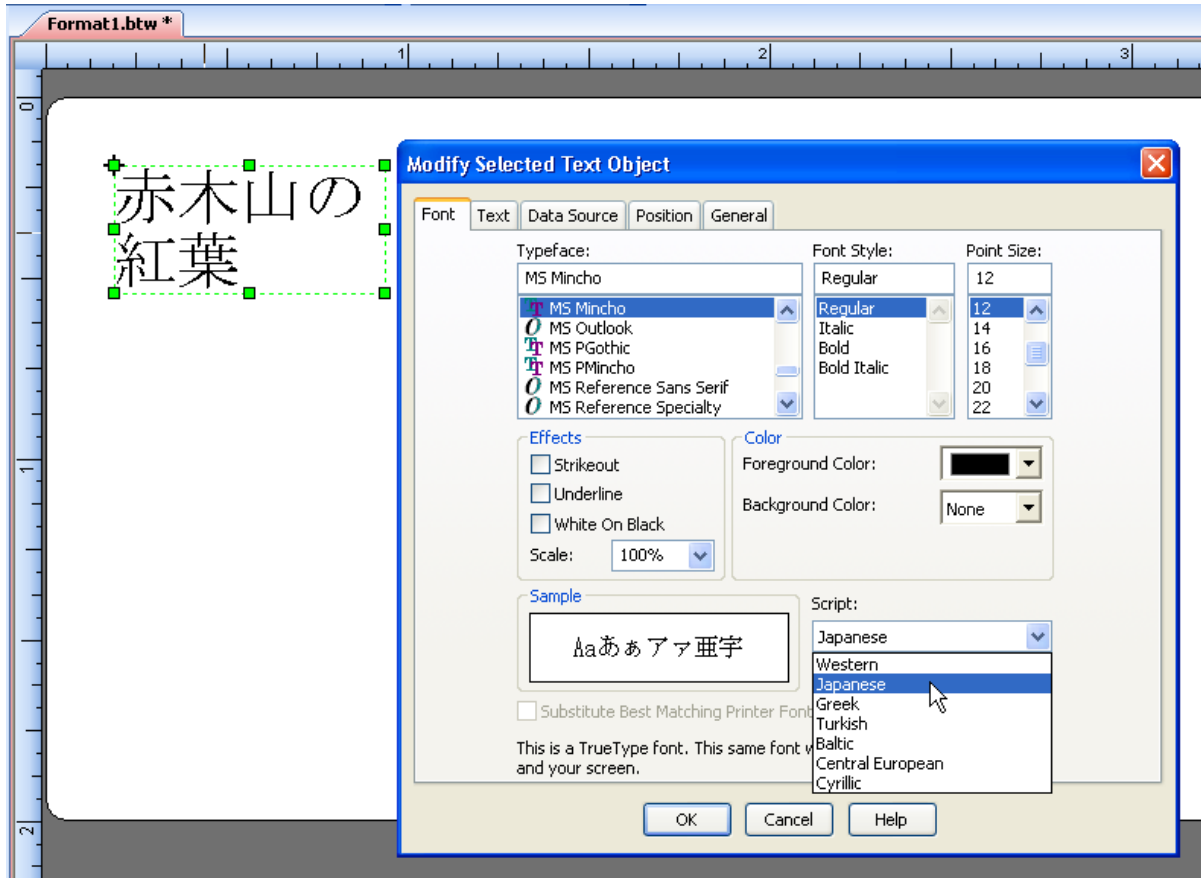
BarTender first supported Asian characters using “code pages” starting in 1995. Subsequently, in 2005 Seagull introduced “full system” support for the “Base Multilingual Plane” (Plane 0) of the Unicode character standard, which includes support for the most commonly-used Asian characters.

Support for the Unicode “Supplementary Characters”

There are a large number of less frequently used Asian characters that are defined in 16 additional “planes” available for representing even more Unicode characters. With the release of Windows Vista, Microsoft’s “input method editor” (“IME”) was enhanced to allow keyboard entry of these “Supplementary Characters.” Now, with version 9.1 of BarTender, whether they were entered at the keyboard or read from a database, BarTender will display and print the Supplementary Characters as easily as any other characters.

Improved Word Wrapping for Asian Characters

BarTender now more precisely supports the word wrapping rules for Japanese, Chinese Simplified, Chinese Traditional, and Korean languages. With version 9.1 of BarTender, changing the **Script** control in the **Font** dialog affects the word wrapping rules in force when formatting multi-line (paragraph-based) text.



Improved and Expanded Bar Code Support

Version 9.1 of BarTender provides a number of enhanced bar code capabilities.

Improved non-English 2D Bar Code Character Support

Version 9.1 of BarTender has been upgraded to take advantage of additional options for encoding non-English text into a variety of 2D bar code symbologies.

PDF417 and MicroPDF417

The **Binary Data Encoding** dropdown list in the Modify Bar Code dialog has now been enabled for PDF417 and MicroPDF417. This lets you explicitly specify the code page to use for

those symbologies. We also added a checkbox for **Use ECI Protocol**. When checked, an ECI (Extended Channel Interpretation) header is included in the bar code.

Be Sure to Check Your Scanners!

The initial specification for PDF417 did not include support for ECI, so be sure your scanners support this option before enabling it for printing bar codes.

Data Matrix and Aztec Code

As with PDF417, the **Binary Data Encoding** dropdown list in the Modify Bar Code dialog has been enabled for Data Matrix and Aztec Code so that you can explicitly specify the code page to use for these symbologies. Previously, changing the code page in Data Matrix and Aztec Code required that you supply a special character sequence within the data source. Now it is as simple as selecting from a list.

QR Code and Micro QR Code

In the past, when the QR Code and Micro QR Code symbologies were selected in BarTender, the **Binary Data Encoding** option in the Modify Bar Code dialog was available and offered a wide variety of options whenever the Start Mode option was set to anything other than “Auto.” With BarTender 9.1, “UTF-8” has been added as an encoding option.

Support Added for USPS Planet Code

BarTender has for years supported a number of postal bar codes. These typically encode data using the *height* of the various bars instead of the *width*. These include:

- Australia Post 4-State Customer Code
- Royal Mail 4-State Customer Code
- US Postnet (various versions)
- USPS Intelligent Mail (4-State Customer Code)

To this list, we now add support for:

- USPS Planet Code

This bar code is used for return mail in the United States when the bar code must be printed in a separate process from the USPS Intelligent Mail bar code.

Available Seagull White Papers

General White Papers

- The Advantage of Drivers by Seagull
- Choosing the Right BarTender Edition
- Label System Security

Companion Applications

- Printer Maestro, Part 1: Enterprise Print Management
- BarTender Security Center
- BarTender Web Print Server

Recent Upgrades

- What's New in the Latest BarTender

Integration White Papers

- Integration Overview
- Commander
- Commander Examples
- BarTender's .NET SDKs
- BarTender's ActiveX Automation Interface
- Exporting Printer Code Templates
- Using BarTender with Terminal Services and Citrix MetaFrame
- XML Integration with Oracle's WMS and MSCA

Integration With SAP

- SAP Integration Methods
- Reading SAP IDocs
- SAP Auto Infrastructure Integration with BarTender

Miscellaneous White Papers

- BarTender Enterprise Licensing
- Printing International Characters Using BarTender
- BarTender Software Activation
- Using BarTender's Application Identifier Wizard
- Optimizing Label Printing Performance
- Status Monitor Overview
- Silent Install

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- www.seagullscientific.com/asp/whitepapers.aspx

