

White Paper

What's New in BarTender 8.0

A Summary of New Features
in Version 8.0

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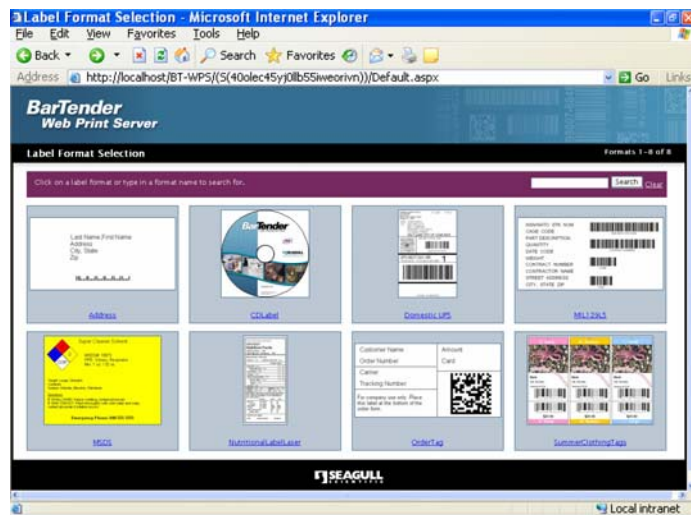
Introduction

The centerpiece of the BarTender v8.0 release is a brand new edition of BarTender:

Enterprise Print Server

Enterprise Print Server now becomes our most powerful BarTender edition. It includes all of the capabilities of the Enterprise and RFID Enterprise editions, plus many new features dedicated to centralized printing and advanced integration.

BarTender 8.0 shines a big spotlight on the type of innovation and user-interface excellence Seagull Scientific has become world famous for, including some of the most exciting new BarTender features in years. This white paper summarizes the most significant new power features that were added to both BarTender and Commander to define the Enterprise Print Server edition. We are especially excited about the new capability to select and print labels from within a web browser.



All editions of BarTender 8.0 also contain:

- An attractively updated user interface, including new Toolbox and toolbar button icons.
- Upgraded forms functionality for print-time data prompting.

Also, the new v7.1 suite of printer drivers has been released with enhanced printer status reporting and logging.

Enterprise Print Server Edition

Enterprise Print Server includes all of the features in the Enterprise and RFID Enterprise editions of BarTender, plus many additional power features focused primarily on centralized printing and advanced integration. The new capabilities are provided by:

- Enhancements to BarTender
- Enhancements to Commander
- A new “BarTender Web Print Server” web application

Understanding “Centralized Printing”

The most traditional way for software to be constructed and installed is so that each user gets his or her own copy of a program. For example, most office workers run their own separate copy of Microsoft Word and Excel. For years, this has also been the most popular way to use BarTender, with each person using his or her own copy.

As compliance label requirements and therefore label printing applications have gotten more sophisticated, an increasingly large number of integrators have chosen not to write their own label printing functions from scratch but to instead integrate other label software into their ERP applications and other programs. For years, Seagull has addressed all such integration requirements with one “Enterprise” edition of BarTender (and our Professional and Basic editions were used for manual printing only). The Enterprise edition allows control of BarTender from within other programs using a variety of means, primarily ActiveX Automation and the creation of trigger files. In fact, without too much effort, an integrator can allow access to BarTender’s printing functions without users even realizing that BarTender is doing the printing.

As ERP software has become more advanced, the need has risen for integration techniques that are more advanced than what ActiveX Automation and simple file triggers can provide. One popular trend is to centralize all of an organization’s label printing functions onto a single label printing server. With the right client-server integration functions, the label printing needs of an entire enterprise can be served using this architecture, which we refer to as “centralized printing.”

In order to provide the powerful integration capabilities necessary to meet the sophisticated client-server requirements of centralized enterprise printing, we have introduced a variety of powerful new capabilities and upgraded some existing ones. However, many label software users will not need this full-range of server and integration power. We have therefore defined a new product tier, which we call BarTender Enterprise Print Server. The existing Enterprise edition will continue to receive general upgrades over time and to serve the basic integration market, whereas the Enterprise Print Server edition will be directed at advanced integration and centralized printing applications.

The Enterprise Print Server edition of BarTender comes with an enhanced edition of Commander, numerous new integration features, improved multi-tasking capabilities, and exciting new web printing functions. Now it’s incredibly easy for large numbers of users to

specify, launch and distribute numerous label jobs using *one* copy of BarTender installed on a single “label printing server.”

A New Integration Method: BarTender XML Script

When integrating BarTender with other software, control of Bartender has typically been done in one of two general ways:

- **Directly**, by having another application directly control BarTender using ActiveX Automation or command lines.
- **Indirectly**, by having our Commander utility detect trigger files or messages from other applications and then issuing controlling commands to BarTender. (Later in this chapter, you will learn that the new Enterprise Print Server edition of Commander adds support for TCP/IP socket triggers as well.)

(Keep in mind is that Commander actually uses ActiveX when it controls BarTender. That means that ActiveX and command line control really are the fundamental methods of controlling BarTender, regardless of whether or not Commander is used in an integration.)

With the Enterprise Print Server edition of BarTender available with the release of version 8.0, a brand new integration method has been defined:

BarTender XML Script

Although BarTender XML script is submitted to BarTender through use of an ActiveX command or a command line, BarTender XML Script in fact represents a powerful new alternative to ActiveX Automation-based integration in many situations. BarTender XML Script is exactly what it sounds like: A scripting language designed especially for controlling BarTender. These scripts can be supplied to BarTender using any of three methods:

- As part of a command line reference to an XML file
- Through the ActiveX Automation interface
- By Commander

The syntax for BarTender XML Script is documented in the BarTender help system under the topic: Automation with XML Script.

Some Benefits of XML Script Integration

Because ActiveX is such a well-established and extremely flexible integration platform, many systems integrators will continue to use it as their primary integration method. However, partly because BarTender XML Script has been designed especially for controlling BarTender,

there will be many integration scenarios in which this new method executes faster and is more convenient to implement.

Performance

One constraint of ActiveX Automation is that each ActiveX command corresponds to a single BarTender function, such as loading a label format or starting a label job. Furthermore, there is system overhead (called “context switching”) associated with any application handing off an ActiveX command for execution by another program. That is why every ActiveX command that a Windows program submits to BarTender will incur at least *some* performance penalty. In contrast, when you use BarTender XML Script, a large block of *many* commands can be submitted to BarTender all at once using a *single* ActiveX command.

BarTender then parses this XML into its individual commands and executes them in sequence – all without having to wait for the controlling application to submit additional ActiveX commands. The performance benefit of using BarTender XML Script is sometimes not that significant. However, in situations where there are a large number of BarTender functions being called, it can lead to a noticeable improvement in performance.

```
<?xml version="1.0" encoding="utf-8" ?>
<XMLScript Version="1.0">
  <Command>
    <Print JobName="Job_123">
      <Format CloseAtEndOfJob="false" SaveAtEndOfJob="false">
        c:\Labels\Label1.btw
      </Format>
      <PrintSetup>
        <IdenticalCopiesOfLabel>2</IdenticalCopiesOfLabel>
        <Printer>HP LaserJet 1200 Series PS</Printer>
      </PrintSetup>
      <RecordSet Name="TextFile1" Type="btTextFile">
        <UseFieldNamesFromFirstRecord>True</UseFieldNamesFromFirstRecord>
        <TextData>
          <![CDATA[
            "FirstName","LastName","City","Zip"
            "John","Doe","Snohomish","98296"
            "Fred","Stevens","Kirkland","98294"
            "Selena","Evens","Snohomish","98295"
            "Caleb","Kirkland","Kirkland","98296"
          ]]>
        </TextData>
      </RecordSet>
    </Print>
  </Command>
</XMLScript>
```

BarTender XML Script lets you submit a large quantity of commands and label data to BarTender in a single block of easy-to-understand XML.

Easier Remote Automation

The use of Commander in combination with BarTender XML Script gives you powerful remote automation capabilities with greatly reduced technical challenges. XML scripts are easy to compose and they are easy to pass to Commander from almost anywhere on a network (or even the internet) for retransmission to BarTender. This makes it easy for network users almost anywhere to request print jobs from a single centralized server, without the large integration efforts and special coding such projects have traditionally required.

Simplicity and Convenience

BarTender XML Script is an especially good method of automating BarTender for individuals that don't have programming skills. Instead of having to write code in Visual Basic, C#, or some other programming language, the same functionality can be achieved by submitting

BarTender XML Script to Commander. Because XML has become the de facto standard for cross-platform integration, many applications (including most ERP packages) can already export vital data in XML form. The format of XML is surprisingly straightforward and it is therefore not difficult to write your own XML using any basic text editor.

The Enterprise Print Server Edition of Commander™

With the release of BarTender 8.0, the Commander utility received many enhancements to support the more powerful integration requirements of the Enterprise Print Server edition of BarTender. This allows for:

- Easier implementation of centralized label printing solutions
- More platform-independent label job control by other applications
- Larger, world-wide enterprise configurations

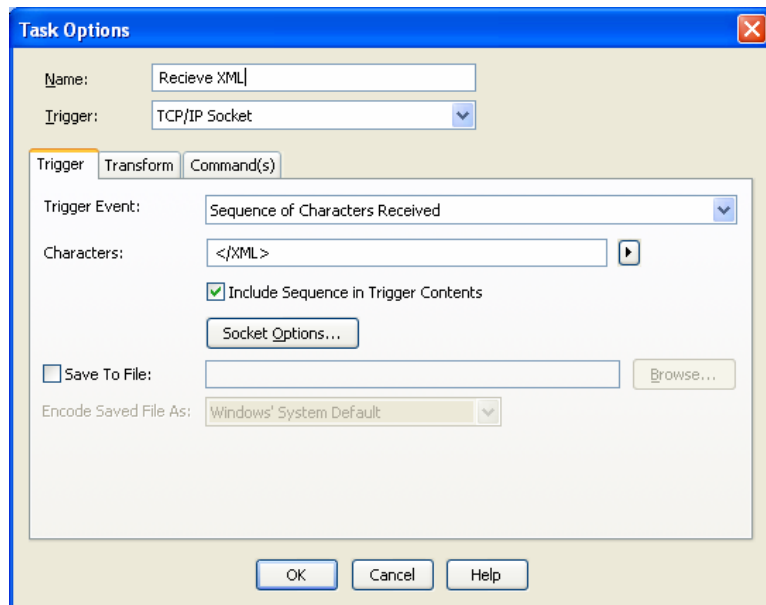
We refer to this new, upgraded Commander as the “Enterprise Print Server edition of Commander.” Both editions of Commander will continue to receive upgrades and refinements over the coming years, but the Enterprise Print Server edition will be Seagull’s focal point for the highest-end integration features required for centralized print management.

TCP/IP Socket Trigger Support

Commander has long supported integration using file and e-mail-based triggers. Now, the Enterprise Print Server edition of Commander adds support for TCP/IP socket triggers.

TCP/IP is by far the most widely-used network communication protocol. It greatly expands Commander’s integration flexibility by providing:

- Simplified implementation and improved performance of centralized printing solutions
- Easier deployment of integrations over larger



With its newly-added options for TCP/IP socket triggers, Commander can more easily address the integration requirements of larger enterprises.

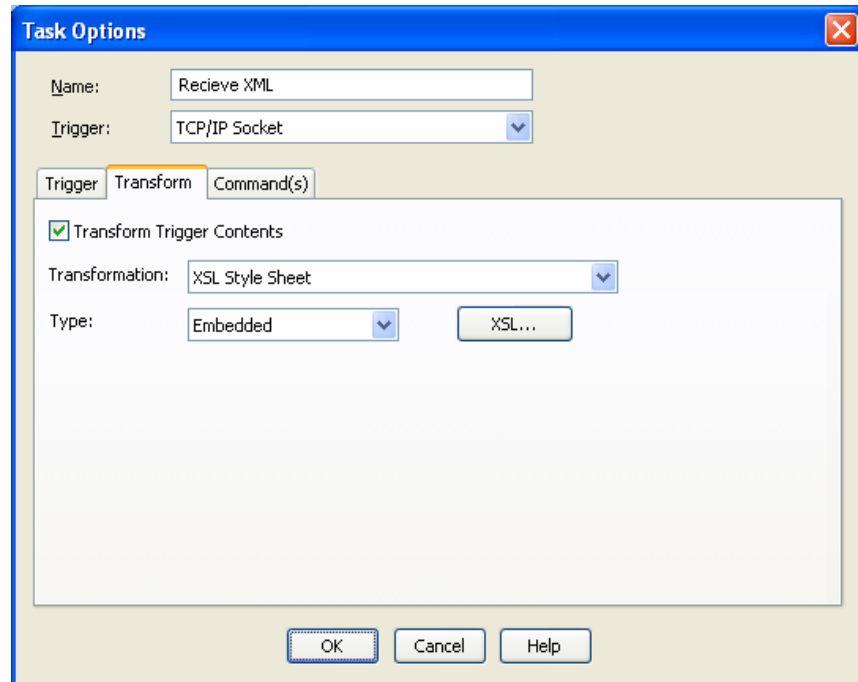
distances (through use of the Internet)

- A faster alternative to integration based on temporary, intermediary files
- Improved options for interactive trigger management and label data transfer

XML Data Transforms Using XSL Eliminate XML Compatibility Issues

Although XML has become the most widely used way to make data from ERP applications available to other software, there is no one standard XML format used by all companies.

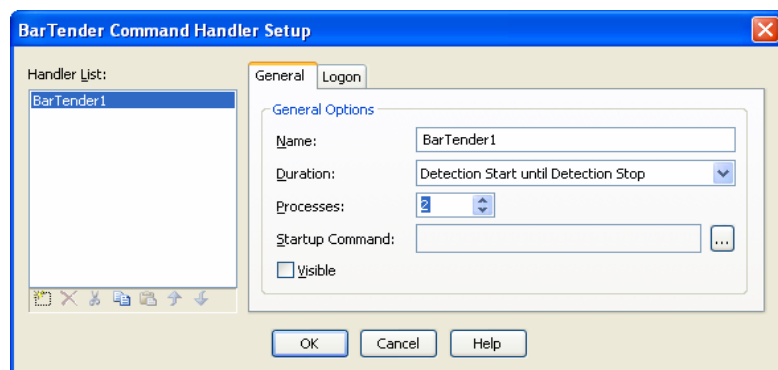
Fortunately, the Enterprise Print Server edition of Commander has taken a huge step toward simplifying this data conversion challenge. Support for XSL style sheets lets Commander accept any form of XML and transform it into BarTender XML Script, comma delimited text, or almost any other data format. Once Commander has access to the appropriate XSL style sheet, it can transform your XML data into just about *any* desired data format.



Commander's options for XML Data Transforms support conversion of any XML into almost any format, including the script used to control BarTender.

Support for Multiple BarTender Processes

The Enterprise Print Server edition of Commander lets you specify the use of multiple BarTender processes to handle a single task. This is done using the Command Handler Setup button on the Command(s) tab of the Task Options dialog.

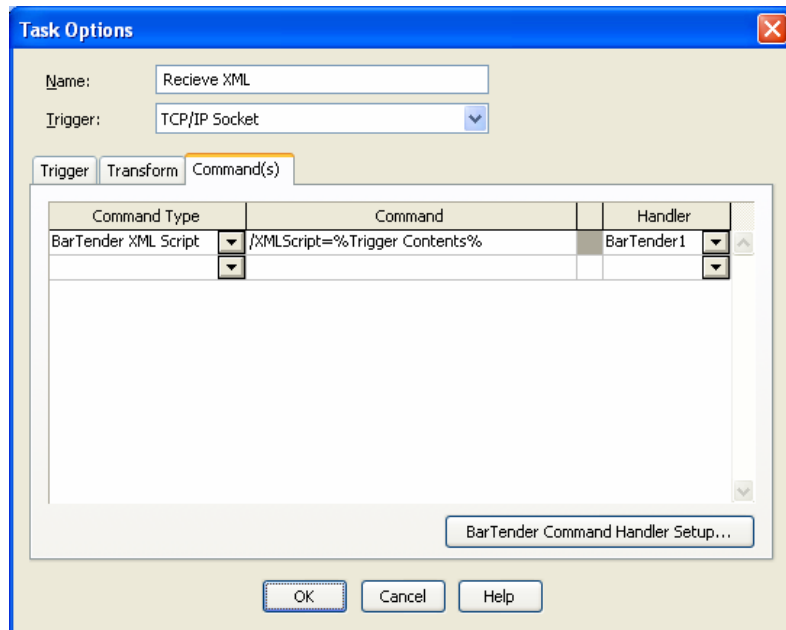


“Command Handler” options let you assign multiple BarTender processes to a single task, thereby raising the performance of high-demand trigger-based integrations.

Specifying a Command Handler improves performance in situations where triggers occur so frequently that the task started by the previous trigger has not yet finished running by the time a new trigger arrives. With a “multi-threaded” architecture, Commander can receive, prepare, launch, and monitor new print jobs without having to wait for existing jobs to finish. This feature was actually available in Commander prior to the release of BarTender 8.0. However, because the multi-threading capability is only useful in high-demand centralized printing environments, this feature will now be available only with the Enterprise Print Server edition.

Ability to Submit BarTender XML Script

The Enterprise Print Server edition of BarTender introduces its own XML-based scripting language (see separate section, earlier in this document). Commander can receive blocks of XML script from a great variety of widely-distributed sources using any of a number of convenient methods. Furthermore, using XML transforms, Commander can convert from other forms of XML into BarTender XML Script. Commander can then pass this XML script on to BarTender for execution. Easy access to such powerful remote automation capabilities almost anywhere on a network (or even the internet) is another of the many powerful new integration features that make Enterprise Print Server such a powerful platform for centralized printing.



The “Command(s)” tab of Commander’s “Task Options” dialog now provides options for submitting blocks of BarTender XML Script to BarTender.

BarTender Web Print Server

The previous sections of this white paper describe the new Commander and BarTender functions built into the Enterprise Print Server edition of BarTender. The third key component is Web browser-based printing.

“BarTender Web Print Server” is an ASP.Net application that provides a browser-based interface for label selection and printing. Users of browsers on regular PCs, non-Windows computers, and even handheld PDAs can easily browse and select label formats and submit them for printing by the BarTender Web Print Server application running on a label server PC.

For use with Enterprise Print Server: BarTender Web Print Server is only available for production use as part of the Enterprise Print Server edition. However, you can also download and use it with the BarTender Trial Edition, available at

www.seagullscientific.com

Three Powerful Printing Options

The three general types of printing supported by BarTender Web Print Server are:

- **Standard Windows Printing:** Printing from the server to either its own printers or printers attached to client PC's elsewhere on a LAN or Wan.
- **Internet Printing:** Printing over the internet to remotely-located printers.
- **PDF Printing:** Printing using a client-server-based Adobe Acrobat PDF function.

Support for Handheld Terminals

Once you install BarTender Web Print Server, all you need to launch a print job is a computer running a web browser. The Web Print Server application doesn't care if that browser is running on a regular Windows PC, a Linux box, or a handheld “pocket PC” or PDA.

A Quick Tour of BarTender Web Print Server

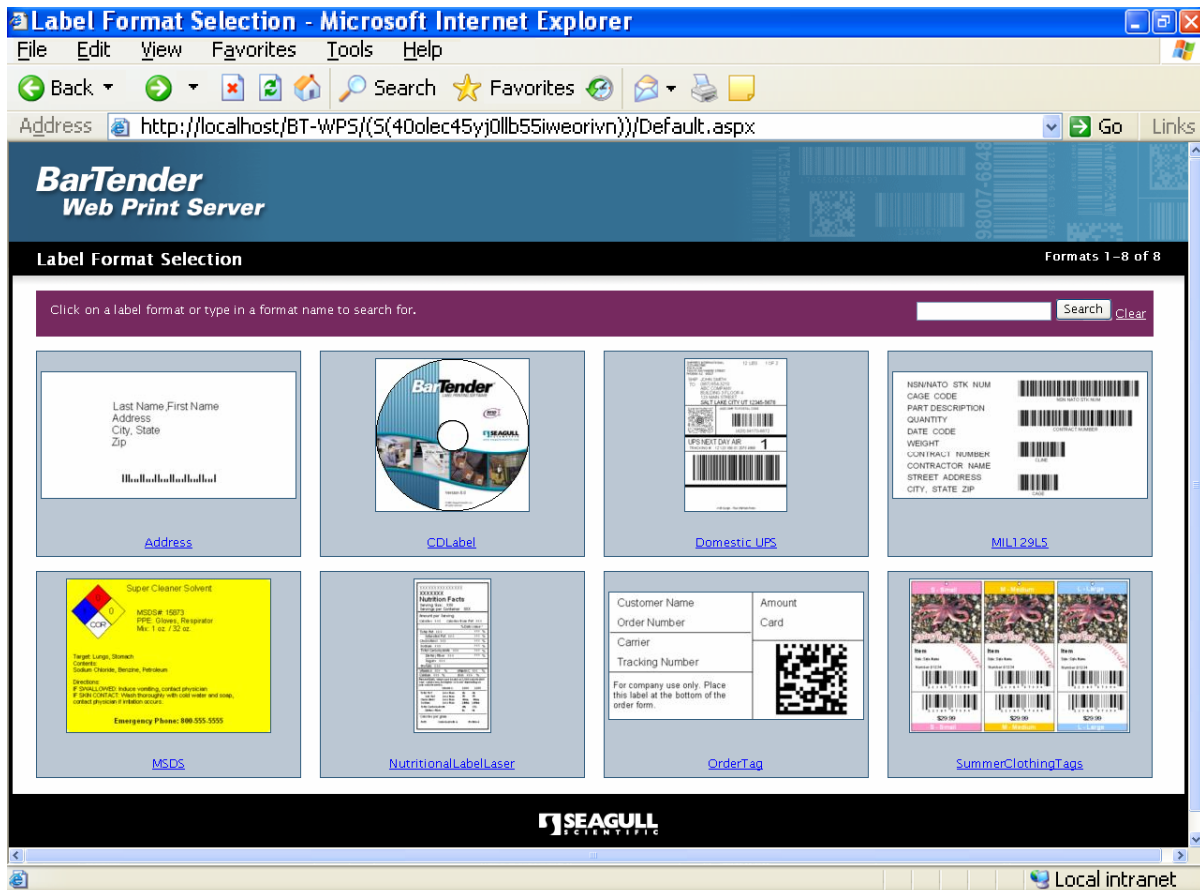
There are three primary pages in the BarTender Web Print Server application, one for each of:

- Label format selection
- Label printing
- Site administration

Label Format Selection

The home page of the BarTender Web Print Server is the “Label Format Selection” page, which displays preview images of as many label formats as you would like to make available. If enough label formats are present, the Search function performs a partial text match on the available label format names to “filter” down the number of displayed formats.

To bring up the “Print” page, you simply click on the desired label format.



The Label Format Selection page of the BarTender Web Print Server lets you browse your label formats and click on the one that you want to print.

Printing

Once you click on the desired label format, the “Print” page is displayed, which gives most of the print-time options available inside a full-version of BarTender. You can change your selected printer, specify print quantity, and print. Depending on which BarTender options are in use for a given label format, other controls may be available on the “Print” page as well.

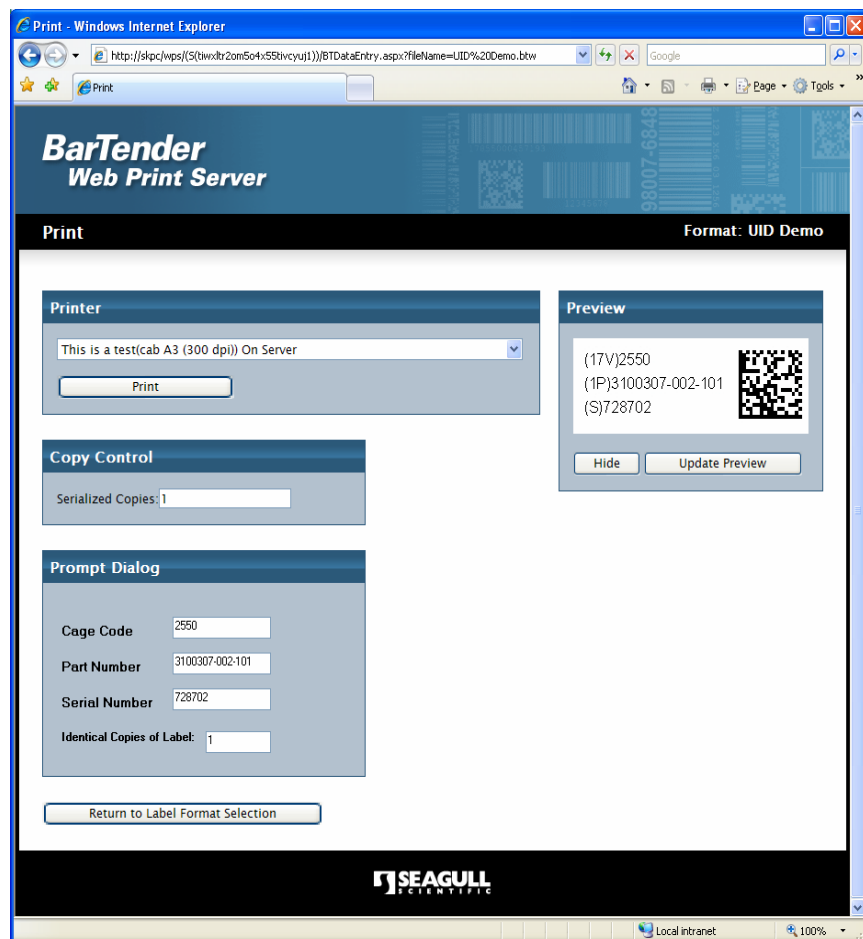
Query Prompts

If the label format is configured to read from a database and record selection is specified to be done using Query Prompts, then a panel will be displayed so that you can type in the record selection criteria.

Print-Time Data Entry

If the label format requires print-time data entry, then the format’s Prompt Dialog is displayed in a panel, allowing you to type in any required data for the label. The Web Print Server application supports display of most of the prompt design functions available in BarTender,

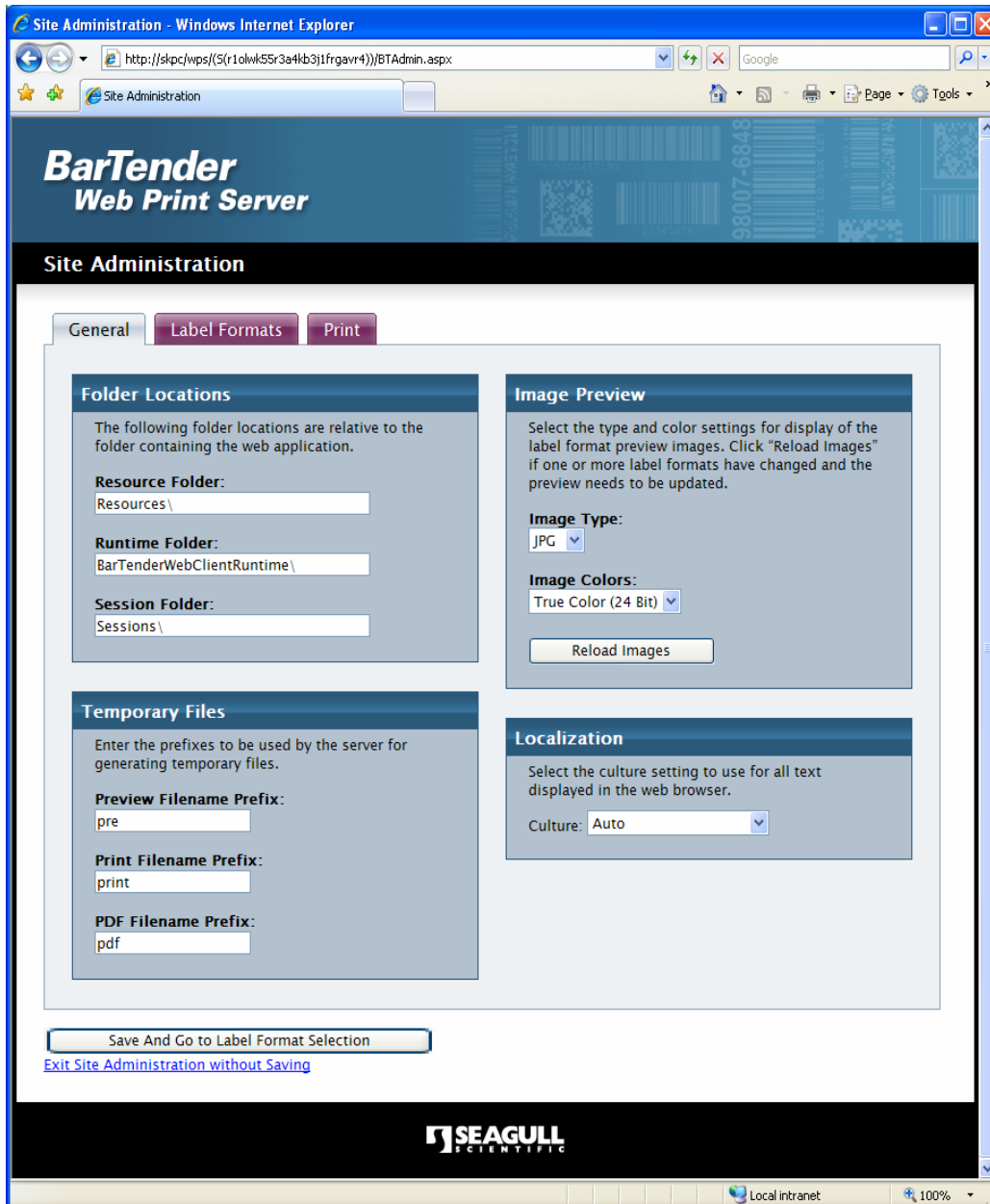
including new options introduced with BarTender 8.0. Once any data entry is completed, you can optionally update the on-screen preview to see how the data will look prior on the label prior to actually printing. (If a Prompt Dialog is not required and was therefore not designed in BarTender, the Prompt Dialog panel will not display on the Print page of the Web Print Server.)



The Print page of Web Print Server offers most of the standard printing options you see inside of BarTender, including Print-time Data Prompts.

Site Administration

The Site Administration page of the Web Print Server is for use by system administrators and is therefore not accessible to regular print-time users. The purpose of this page is to allow configuration of the web application, including the size of certain graphic images and what functionality to offer in the Label Format Selection and Printing pages. When you install BarTender Web Print Server, you get an option placed on the Windows Start menu of your web server system for accessing the Site Administration page. Alternatively, you can perform remote administration using your web browser.



The Site Administration Page of the BarTender Web Print Server lets you choose which options are available to your users and how some of them will be displayed.

For More Information

A separate white paper provides more detailed documentation of BarTender Web Print Server. It can be found on the White Papers page of Seagull's web site at:

<http://www.seagullscientific.com/aspx/whitepapers.aspx>

BarTender Web Client Runtime and Licensing Issues

This is an ActiveX control that is automatically downloaded onto client systems when performing "Internet Printing" with BarTender Web Print Server. Users that developed their own custom ASP.Net web applications that support Internet printing using BarTender may also take advantage of the Bartender Web Client Runtime. In fact, it is *required*. The Enterprise Print Server edition is the only edition of BarTender that is licensed for control by custom-developed web applications that implement Internet printing.

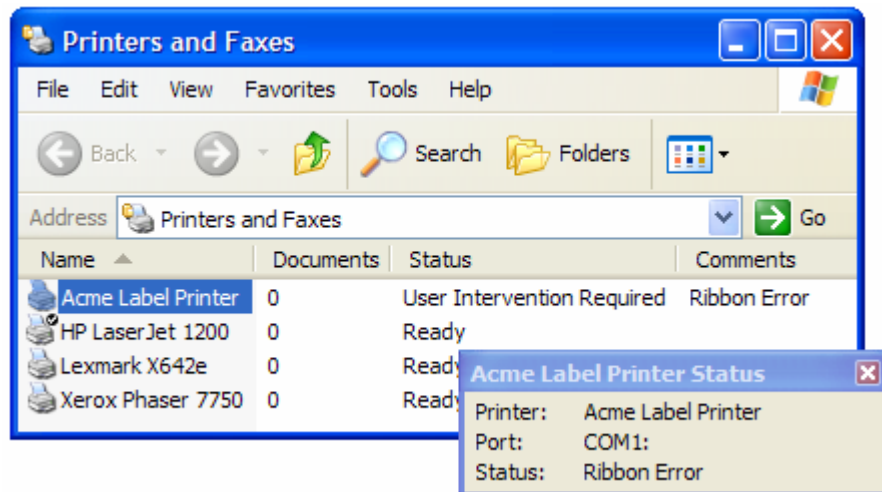
Windows Cluster Server Licensing

The Enterprise Print Server edition is the only edition of BarTender that is licensed for running in Windows Cluster Server environments.

Improved Printer Status and Print Job Status Information

The Status Monitors now built into most printer Drivers by Seagull™ provide detailed status information on your print jobs. This allows you to manually track the status of a print job from any edition of BarTender, just by

looking at the Windows Print Queue dialog. (Keep in mind that the Status Monitor is a Seagull printer driver feature and is active and useable whether your print job originated with BarTender or not.)



The printer status information available has been expanded to support warnings and the reporting of more than one problem at the same time.

At this time, Print Job Status information is not available in the Printers and Faxes folder when running Windows Cluster Server.

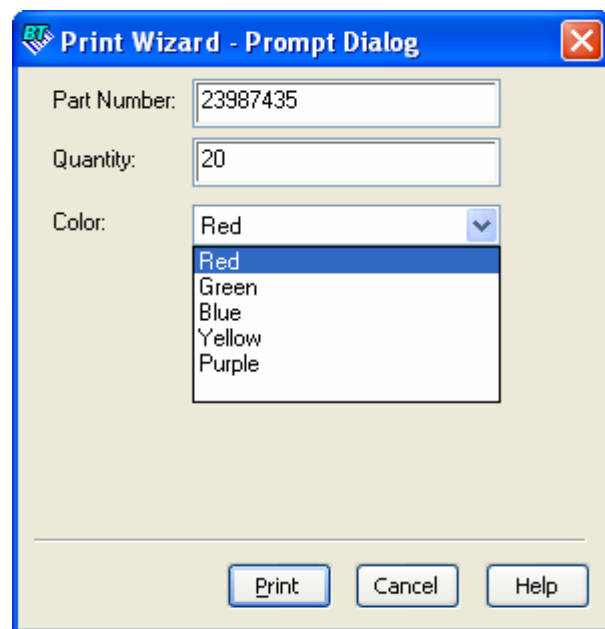
Job Verification Available when Automating Printing

In addition, with all Enterprise editions of BarTender 8.0, when you now use ActiveX Automation to launch a print Job, you can optionally perform actual verification that the print job completed, rather than merely verifying that the job was submitted to the Windows Spooler. This lets your controlling applications determine when a BarTender print job might be stalled, perhaps due to some sort of printer problem. For more information, use the BarTender help system to search on the Print() method.

Improved Data Entry Forms

BarTender's forms designer for print-time data-entry now supports list boxes and drop down lists. The list of choices can be either static or supplied by a VB Script. (VB Script capability is only provided by the Professional and Enterprise editions.)

Most objects that can be designed into BarTender data entry forms, including the newly supported object types, will also be displayed by the BarTender Web Print Server inside of a web browser.



BarTender now supports the design of list boxes and drop down lists in prompt dialogs for print-time data entry.

Support for Additional Graphics Formats

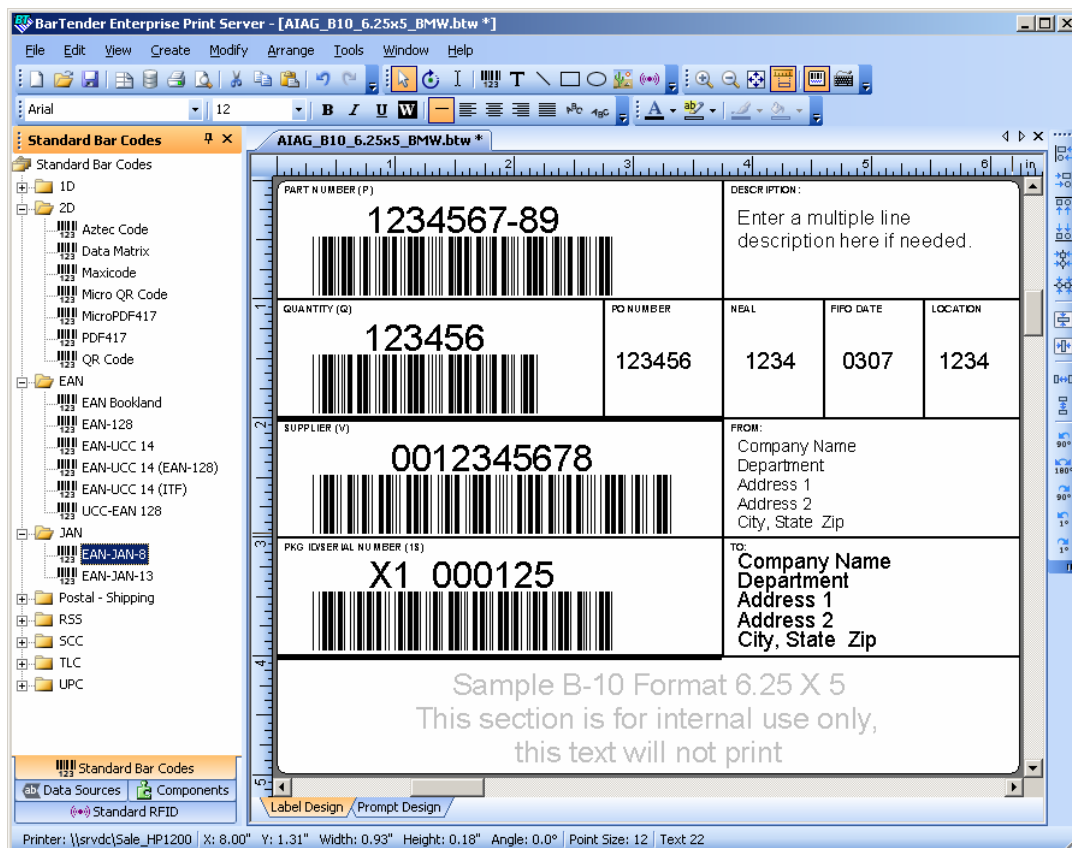
A new Graphics library has been integrated into all editions of BarTender 8.0 that adds support for:

- 70 additional graphic formats
- Improved color management for CMYK JPEGs.
- Transparency effects for several graphic formats

Updated User Interface

With version 8.0, all editions of BarTender have received an attractively updated user interface, including:

- Almost all toolbar icons have been made more colorful, clearer, and/or more 3-dimensional in appearance, providing greater attractiveness and quicker user recognition.
- The Toolbox now supports “auto-hide.” This gives you the option of having it disappear out of the way when it is not needed, significantly increasing your available design area.
- The Toolbox now also offers more advanced “docking” and “floating” functions, as well as more convenient switching between the different “panes.”
- The menu system now supports an even greater level of customizable configuration.



All editions of BarTender 8.0 have had the user-interface thoroughly updated for more attractiveness and improved ease of use.

A new version of Drivers by Seagull™ (v7.1) is included with BarTender v8.0. Several improvements are documented in these next sections.

Seagull Driver Wizard

The new Seagull Driver Wizard now makes printer driver installation, removal, and updating easier and more reliable than ever.

Seagull has always taken great pride in its “true Windows” philosophy with everything from general “look and feel” to printer driver operation to database access. Unfortunately, the standard “Add Printer Wizard” built into Windows overlooks some important clean-up functions when upgrading and removing drivers. In the worst case, this can lead to a driver appearing to be properly installed when in fact it is missing a component or possibly even using a component from an older version (or another) driver.



The Seagull Driver Wizard does a better job of upgrading drivers and cleaning up after old ones than does the Windows' Add Printer Wizard.

Driver's by Seagull™ continue to be compatible with the Microsoft Windows Add Printer Wizard. However, when you use the Seagull Driver Wizard instead, you preemptively avoid a variety of installation conflicts that can sometimes cause longer-term problems.

Additional Status Monitors

Previously, Drivers by Seagull™ offered Status Monitor support for Intermec, TEC, VIPColor, and Zebra printers. Version 7.1 of Drivers by Seagull™ adds support for Autonics, Datamax, cab, Cognitive Solutions, Monarch, Novexx, Ring, Sato, and TSC.

Improved Status Monitoring

Three major improvements have been made to the Status Monitor built into Drivers by Seagull™:

- **Support for Warnings:** Previously, the Status Monitor only displayed errors that would prevent printing, such as “Out of Ribbon.” Now the Status Monitor can show warnings as well. Warning conditions don’t immediately prevent printing, but warn about a problem that may soon cause a problem, such as “Ribbon Low.”
- **Multiple, simultaneous printer conditions:** Previously, the Status Monitor could only display one condition at a time, even if multiple, simultaneous conditions existed on the printer. Now, for example, the Status Monitor can show “Printer Paused” *and* “Out of Labels” at the same time.
- **Detailed Status in Printers and Faxes Window:** Previously, the Status Monitor showed detailed printer status information in the Print Queue window and in the Status Monitor windows of Seagull drivers. However, the Windows “Printers and Faxes” folder, which shows a view of all installed printers, is only designed to show a printer’s *primary* status (e.g. “Ready”, “Busy”, “Offline”, “Paused”, “Paper Out”, and “User Intervention Required”). Because many thermal printer conditions (“Head Open”, “Out of Ribbon”, etc) were forced into the one-size-fits-all category of “User Intervention Required,” the displayed information was less helpful than would be ideal. Now, however, Seagull has found a way to display additional printer information inside of the Windows’ Printers and Faxes folder.

The Printers and Faxes folder has several different views, all of which show the printer’s *primary* status. Now, Drivers by Seagull with Status Monitor functionality cause additional printer status information to be displayed in the Printers and Faxes folder in the “Comments” column if the folder view is set to “Details.” This lets conditions such as “Out of Ribbon” be clearly seen for all of your printers in one convenient view.

Improved Print Job Logging

Print job logging from within the printer driver has been improved. More status information about the job can now be logged and CSV text file formats are now supported.

Changes to Existing Editions

Support for some older operating systems has been discontinued. Some other changes have been made to existing BarTender editions to support license enforcement, as well as the requirements of the new Enterprise Print Server edition.

Operating System Support

Support for Windows 98 and Windows ME has been dropped. BarTender v8.00 supports all variations of Windows 2000, XP, Windows 2003 Server, and Vista.

Printing to File using ActiveX Automation

Although having BarTender print to a file under the ActiveX control of another program was previously supported in the Enterprise edition, feedback from the field repeatedly demonstrated that the primary use of this feature was to violate Seagull's End User License Agreement. For this reason, printing to a file using ActiveX Automation is now only possible when using both the Enterprise Print Server edition of BarTender and the "BarTender Web Client Runtime" ActiveX Control. Please contact Seagull Scientific if you need more information about this topic.

Support in Commander for Multiple BarTender Processes

Prior to the release of v8.0, the Enterprise edition of BarTender was sometimes used in centralized printing applications. Commander therefore supported the optional assigning of multiple BarTender processes to a single Commander task. With the release of BarTender 8.0, the Enterprise Print Server edition introduces numerous power features that directly address the enhanced integration and increased performance requirements of centralized printing environments. Accordingly, support for executing multiple, simultaneous BarTender processes was moved up to the Enterprise Print Server edition of BarTender only. Trigger events will never be "missed" by the base edition of Commander provided with the Enterprise and RFID Enterprise editions of BarTender. However, that edition of Commander cannot ask BarTender to start a new task until it has already finished processing the previously-submitted request.

White Paper Updates

The following white papers have been updated:

- BarTender Enterprise Licensing
- Choosing the Right BarTender edition
- Commander
- Commander Examples
- Status Monitor Overview
- XML Integration with Oracle WMS and MSCA

The following white paper is new:

- BarTender Web Print Server

Available Seagull White Papers

General Topics

- The Advantage of Drivers by Seagull
- Choosing the Right BarTender Edition
- BarTender Web Print Server
- What's New in the Latest BarTender

Integration

- Integration Overview
- Commander
- Commander Examples
- Exporting Printer Code Templates
- Using BarTender with Terminal Services and Citrix MetaFrame
- XML Integration with Oracle's WMS and MSCA

Integration using ActiveX

- Getting Started with ActiveX Automation Using C#
- Getting Started with ActiveX Automation Using VB.NET
- Getting Started with ActiveX Automation Using VB6

Integration with SAP

- SAP Integration Methods
- Reading SAP IDocs

Miscellaneous Topics

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

For downloadable versions, visit:

www.seagullscientific.com/asp/whitepapers.aspx

