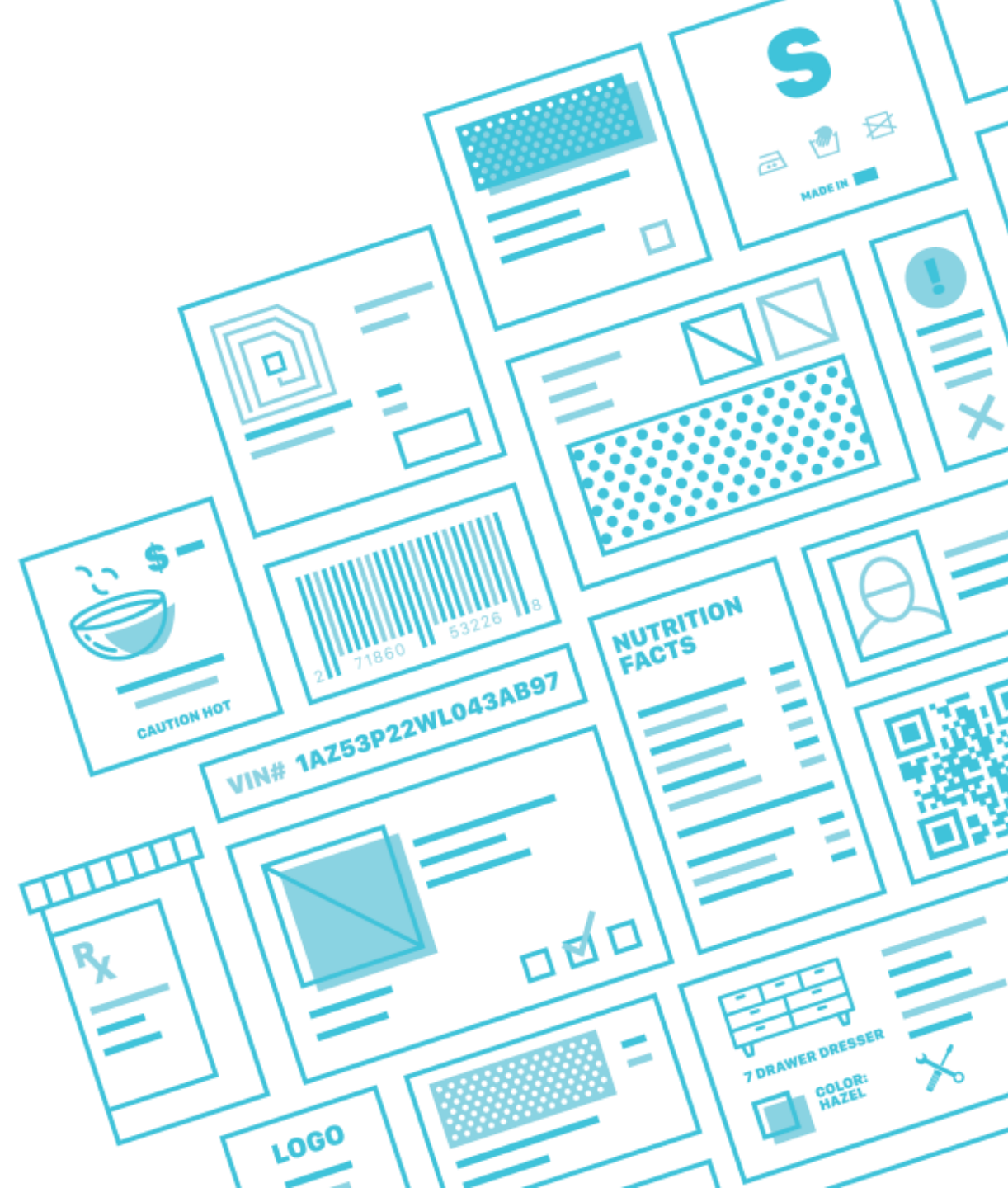




BarTender 2019 Technical Preview

A PREVIEW OF THE NEW FEATURES AND FUNCTIONALITY
COMING TO BARTENDER...



Agenda

- ▶ Introduction to BarTender 2019
- ▶ Administration
- ▶ Template Design
- ▶ Data Sources
- ▶ Data Entry Forms
- ▶ Printing Enhancements
- ▶ Integration Platform

BarTender 2019 Introduction



BarTender 2019

BarTender software transforms information into the labels, barcodes, RFID tags, smartcards, packing slips and pallet labels that drive business. BarTender helps our customers improve safety, security, efficiency and compliance through:

- ▶ Easy, powerful design
- ▶ Fast, accurate printing on demand
- ▶ Comprehensive control
- ▶ Straightforward integration
- ▶ Legendary technical support

Business is hard.
Labelling doesn't have to be.



Enterprise software built for vertical markets



Aerospace



Supply-Chain



Retail



Medical Devices



Chemical



Pharmaceutical



Healthcare



Food and Beverage

Key improvements to BarTender 2019

BarTender 2019 represents years of research and development culminating in our best BarTender yet. We've focused on simplifying our software and, at the same time, addressing the needs of our end-users.

- ▶ New installer and more flexible activation and licensing
- ▶ Improved user experience with more intuitive template editing
- ▶ Augmented data sourcing and data storage capabilities
- ▶ Powerful features added to forms for a more app like experience
- ▶ New printing capabilities and features
- ▶ Improvements to the integration build and testing

Administration

INSTALLER, ACTIVATION, LICENSING, AND MORE



New installer

The existing software installer has been replaced by a new, modern, and actively maintained installer.

- ▶ Quicker install times
- ▶ Prerequisites are handled better
- ▶ More responsive to the user
- ▶ Better looking and easier to understand
- ▶ Provides better diagnostic information in the event of failure

New Product Key Code

- ▶ Product Key Code generated at time of software download
- ▶ Used to activate all editions of BarTender
- ▶ The same license code is updated with new details at time of upgrade
- ▶ Software updates activation with online activation servers after purchase

PKC: XXXX-XXXX-XXXX-XXXX

**A new Product Key Code
lasts for the lifetime of BarTender**

Licensing server

The License Server functionality has been re-engineered for greater reliability and redundancy, and has been incorporated into a section of the Administration Console.

- ▶ The new licensing system will be more flexible:
 - ▶ Single license may be partitioned into different pools (typically divisions within a company)
 - ▶ Multiple licenses may be hosted on a single server (may be entirely different customers)
 - ▶ More control over what users can print to which printers
- ▶ Many new features and improved usability

Licensing service

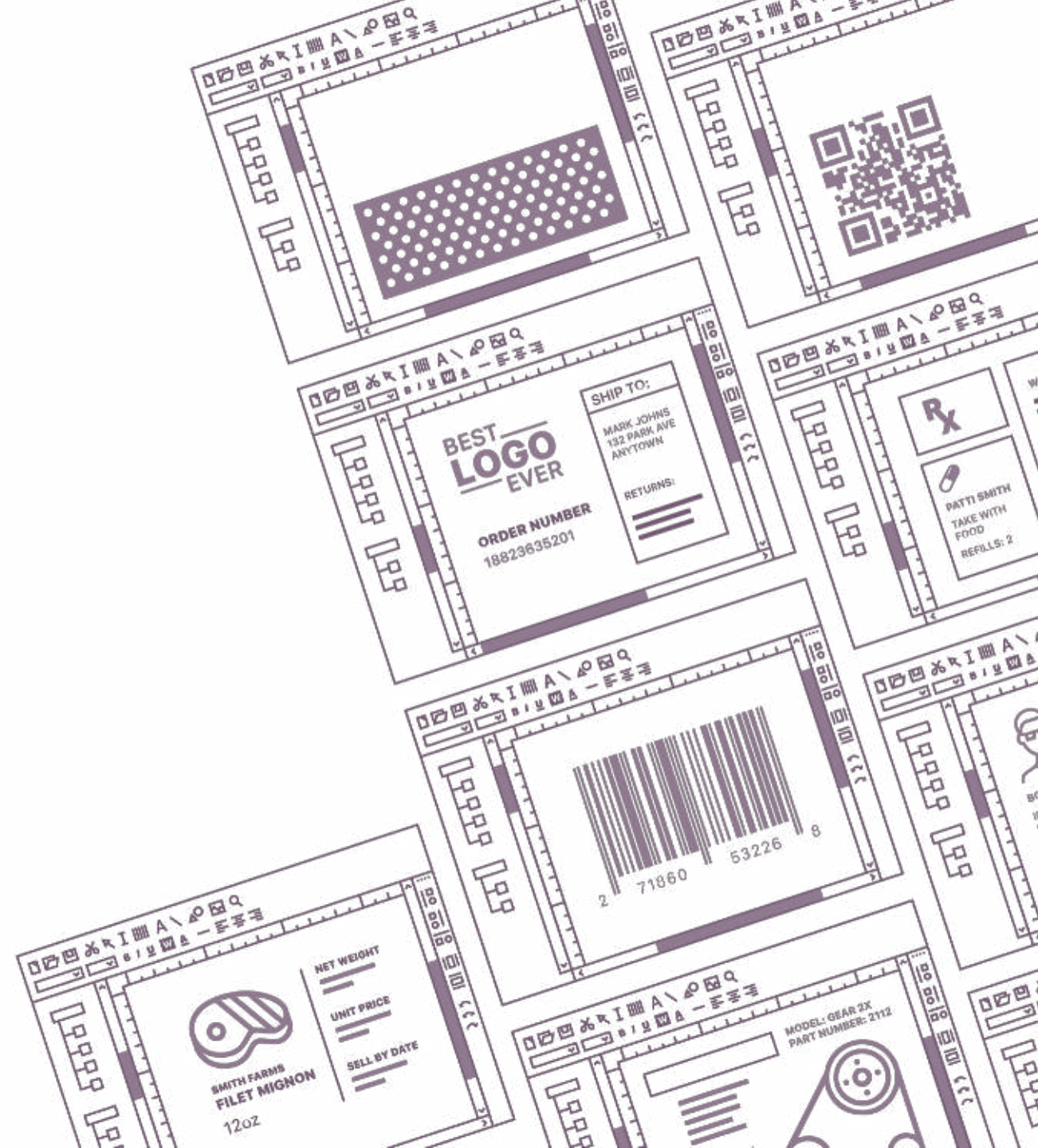
- ▶ The service will always be installed for all BarTender editions
- ▶ The user interface will become an integrated part of Administration Console
- ▶ Remote administration will become a built-in capability

Licensing features in Administration Console

- ▶ Allow activation of more than one PKC
 - ▶ PKC can be associated with user name(s), computer name(s), or IP(s)
 - ▶ Allows hosting separate instances of licensing on a single computer
- ▶ Add more advanced filtering capability
 - ▶ Possible to blacklist users
 - ▶ Possible to disallow certain printers from being used
- ▶ Add logging capability (to system database)
 - ▶ Allows logging of when printers are approved or denied (and what user was using it)
 - ▶ Track how many jobs and labels were printed by printer, user, or license
- ▶ Improved scalability and built-in support for redundancy

Template Design

INTUITIVE AND EASY DESIGN



New editor improvements

- ▶ New on-screen edit experience
 - ▶ Full WYSIWYG editing of any text object, as easily as using Microsoft Word
 - ▶ Supports mixing font styles and colors
 - ▶ Includes rotated and arc text
 - ▶ Full support for Chinese, Japanese, and Korean IME
- ▶ Easier to use and manipulate data sources
 - ▶ Insert any data source right at the cursor position
 - ▶ Database fields, serial numbers, date/time, and other external data sources appear as "fields" in the editor
 - ▶ Easier to connect data entry controls
 - ▶ Data type formatting and transforms such as serialization can be modified without opening the full Properties dialog
 - ▶ Dramatically accelerates creation of rich label designs

New text layout features

- ▶ Text can be arranged in multiple columns
- ▶ Improved tab stops
 - ▶ Center, right, and decimal alignment
 - ▶ Leaders to create table of contents or index, e.g. ". 1"
- ▶ Text now supports "wrap to borders"
 - ▶ Wrap around diamonds, circles, or any other shape
 - ▶ Wrap to the left or right side, or between objects
 - ▶ Wrap to fit rounded corner or elliptical object borders
 - ▶ Wrap to fit template borders
- ▶ New layout engine supports the above features with transforms
 - ▶ Arc text now supports multi-line word wrap and auto-size



Improved auto-fit of text

- ▶ Auto Fit has been completely redesigned
 - ▶ Can adjust font size, scaling, character spacing, and/or paragraph spacing
 - ▶ New algorithm is significantly faster and more precise (to nearest 0.1 pt)
 - ▶ Works better with mixed font sizes
 - ▶ No limits on rotation
 - ▶ All features are supported for single, multi-line, arc, and other transforms
- ▶ Auto Fit settings for multiple objects can now be linked
- ▶ Existing "auto-size" feature had several limitations
 - ▶ Did not fully support rotation
 - ▶ No adjustment for font scaling with multi-line text
 - ▶ Not the best performance possible

New text styles

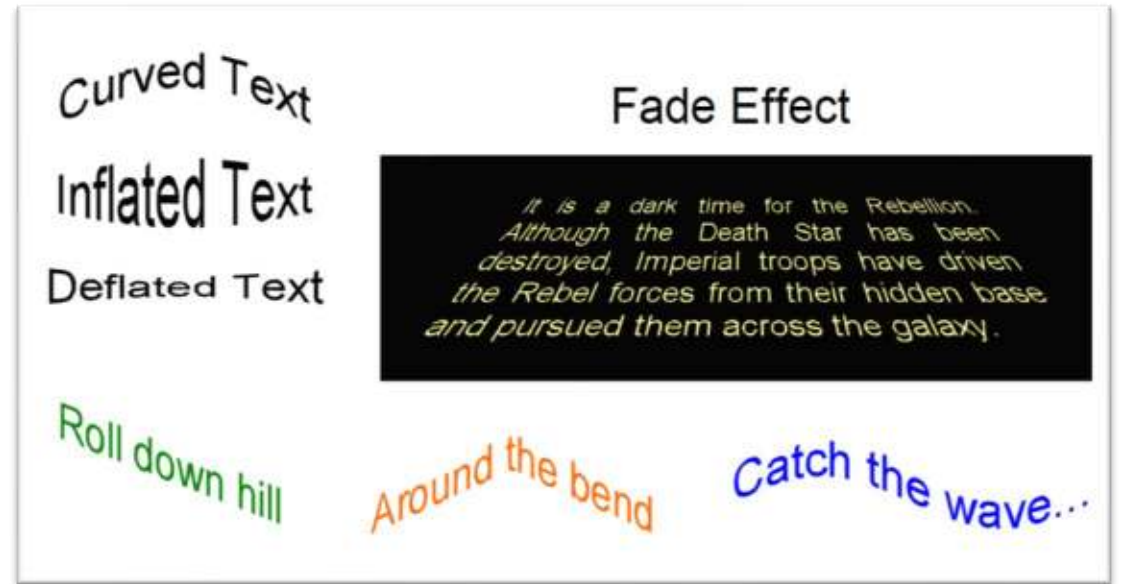
- ▶ Improved typographical precision to 0.1 pt
- ▶ Superscript and subscript are fully supported
 - ▶ Easily write formulas like $E=mc^2$ or H_2SO_4 using the toolbar
- ▶ Arbitrary baseline adjustment is supported
- ▶ Improved underline and strikethrough
 - ▶ Various line styles
 - ▶ Set line color independently of text color
 - ▶ Option to underline each word
- ▶ Small Caps style is now supported
- ▶ Slash zero and dotted zero styles can be applied to any font

Text transforms

All use of BarTender's native text objects can now be transformed with a variety of text effects.

► Text transform type include:

- Curve
- Slant
- Bend
- Wave
- Inflate
- Deflate
- Fade



Update of barcode symbologies/standards

- ▶ Free rotation of barcodes (no longer limited to 90° intervals)
- ▶ New barcode symbologies
 - Complex Mail Data Mark (CMDM)
 - PPM (IFA Pharmacy Product Number)
 - Royal Mail Mailmark (added Type C and Type L)
 - Singapore Post
- ▶ Updated GS1 standard to version 19 specification
- ▶ Improved multi-lingual support for QR Code
 - Auto encoding provides better experience for Chinese users
 - Full support for EDI
- ▶ Manual Data Matrix encoding
 - Switch between encodings such as C40 using escape characters



Grid layout object

- ▶ Grid Layout object helps arrange objects relative to one another
 - ▶ Complex layouts can be created without writing script
- ▶ Define rows and columns
 - ▶ Can be fixed size
 - ▶ Can size to content, subject to minimum and maximum constraints
 - ▶ Specify alignment within cells, and padding
 - ▶ As objects change size, the other objects will be repositioned if needed
 - ▶ Text can be auto fit to cell

Hello	101	
Bigger Field	24507	

Table object

- ▶ New table object with configurable headers, borders, and text styles
- ▶ Many packing slips, invoices, and receipts can be broken down into:
 - ▶ Common data fields at the top
 - ▶ A table in the middle
 - ▶ Common data fields at the bottom
- ▶ We can already print the top and bottom, what we need is that table in the middle
- ▶ Records that overflow should be able to start a second template
- ▶ The page template is no longer needed for such a document design

Multi-line item document printing made easy

[illegible]

Data Sourcing

DATA FILE, XML, DATABASE, AND DATA BUILDER



Database drivers

- ▶ Integrated drivers for Excel
 - ▶ New features (select table from range C3:J29, vertical orientation)
 - ▶ Higher performance
 - ▶ Easier to set up (no more 32-bit vs. 64-bit concerns)
- ▶ Integrated drivers for Access
 - ▶ Easier to set up (no more 32-bit vs. 64-bit concerns)
- ▶ Support for Microsoft Azure SQL
- ▶ Support for MariaDB (related to MySQL)
- ▶ Direct support for XML files
- ▶ BarTender Data Builder

XML support

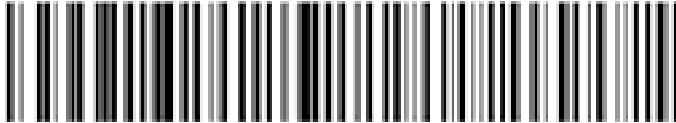
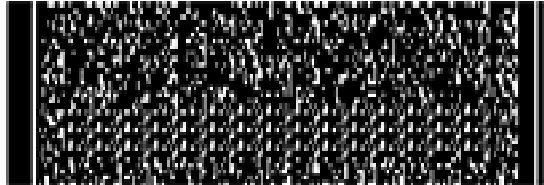
- ▶ Direct support for XML files
 - ▶ Select which element corresponds to a record in a GUI, no scripting required
 - ▶ Attributes and nested elements can be added as fields
 - ▶ Element selection uses XPath expression, customizable by advanced users
- ▶ XML has been a common data format for at least 15 years for passing transactional data between computer systems
 - ▶ Previously, the only way to use XML files in our product has been to create an XSL transform in Integration Builder, or previously in Commander
 - ▶ Most end-users would consider this beyond their capabilities to implement
 - ▶ In BarTender 2019 we now support the concept of easy, and rapid systems integration using XML

Multiple record per template

New multiple records features for printing documents such as packing slips or invoices where multiple record items are printed per page.

- ▶ Allows fields from a fixed number of records to print on a single template
- ▶ Combine a fixed number of records into a single virtual record
 - ▶ First record uses field names like “Name” and “ID”
 - ▶ Subsequent records use field names like “Name [2]” and “ID [2]”
- ▶ Support for combining records into a single field using a separator (for example, using CR/LF would put one record per line)
- ▶ Support for breaking to the next label when a specified database field changes (for example, when the order number changes)
- ▶ Nearly any "multiple records per label" scenario can be achieved with some combination of record aggregation, conditional printing, and VB Scripting

Record aggregation in pallet labelling

FROM: FROM ADDRESS LINE 1 FROM ADDRESS LINE 2 FROM ADDRESS LINE 3 FROM ADDRESS LINE 4 EMAIL PHONE CONTACT ASSEMBLED/MADE IN XX		TO: TO ADDRESS LINE 1 TO ADDRESS LINE 2 TO ADDRESS LINE 3 TO ADDRESS LINE 4 PLANT CODE: LC 15C		MIXED LOAD	
PART NUMBER: 12345678 TOTAL QTY: 1000 @ 5 @ 200		PART NUMBER: 02345678 TOTAL QTY: 1200 @ 6 @ 200		PART NUMBER: 12245678 TOTAL QTY: 1000 @ 5 @ 200	
PART NUMBER: 10345678 TOTAL QTY: 750 @ 5 @ 150		PART NUMBER: 12345600 TOTAL QTY: 6000 @ 5 @ 1200		PART NUMBER: 00345678 TOTAL QTY: 100 @ 5 @ 20	
PART NUMBER: 12045678 TOTAL QTY: 1000 @ 10 @ 100		PART NUMBER: 12005678 TOTAL QTY: 1000 @ 5 @ 200			
LICENSE PLATE (AL):  UN123456789A2B4C6D8E				GROSS WEIGHT: 9999 KG	
					

Up to 8 items per label,
each of which might be
a separate record

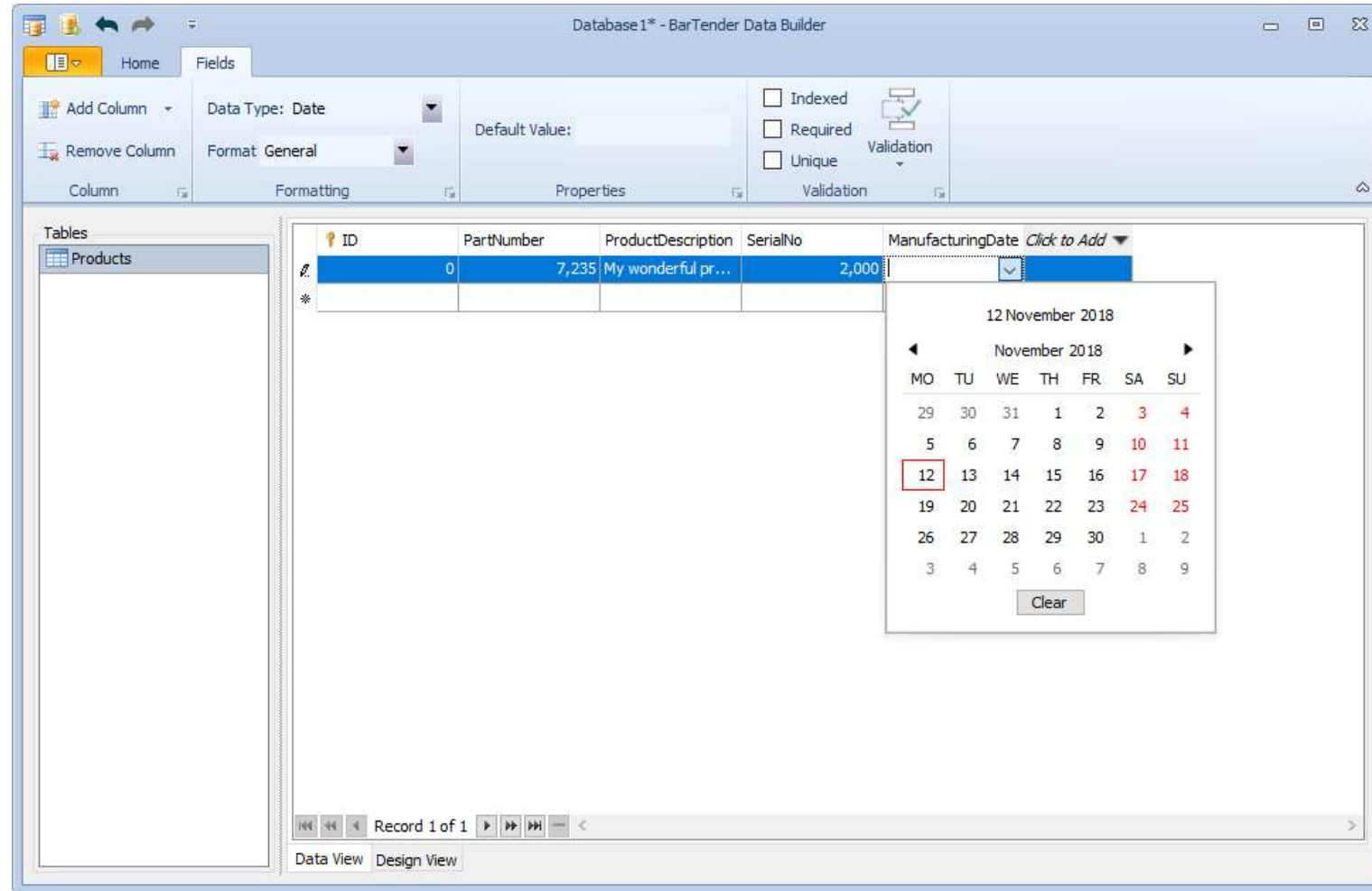
Other data file and database improvements

- ▶ More flexible text file support
 - ▶ Support for name/value pairs (like INI files)
 - ▶ Support for delineated tables
 - ▶ Additional filtering options (Is Any Of, Is None Of, Is Between, Is Not Between)
 - ▶ More options to control what lines are extracted from file (skip lines at start and end, ignore lines meeting certain characteristics)
- ▶ Write modified fields back to SQL-based databases
 - ▶ Useful for situations like serial numbers stored in database
- ▶ Improved multi-database joins
 - ▶ Support for LEFT OUTER, RIGHT OUTER, and FULL OUTER joins
 - ▶ Optimized performance
- ▶ Manage named connections from Administration Console

Data Builder editor

- ▶ New file-based database editor (similar to Access)
 - ▶ Can be used for anything from simple lookup tables to building card printing solutions with integrated membership management
 - ▶ Directly supported as a native database type in BarTender
 - ▶ Reduce the need to use Excel
 - ▶ Negates the need for a third party database
- ▶ Fields may be various data types
 - ▶ Text, numbers, date/time, Boolean data type, BLOB
 - ▶ Type-dependent editors (numbers, dates, dropdown list, checkbox)
 - ▶ Pictures may come from a file or acquired via image capture
 - ▶ Support for column and row validation rules
- ▶ Different storage methods
 - ▶ Embed tables stored directly into a document
 - ▶ Store as external file, shareable with other documents

Database design and data entry



Embedded data tables

- ▶ Data Builder functionality is available for embedding within the BarTender document BTW file itself
- ▶ Ideal for encapsulated and offline production solutions that require variable record data:
 - ▶ Allergen highlighting for food and beverage labels
 - ▶ Offline production printing
 - ▶ Event badge/card printing with attendee registration details
 - ▶ GHS labelling
 - ▶ And many more...

Data entry forms

NEW AND IMPROVED FORM CONTROLS, EVENTS,
AND ACTIONS











Record picker and list controls

- ▶ Record Picker control has been enhanced
 - ▶ Support for pictures as a column type
 - ▶ Many new view options including card and carousel views
- ▶ Multi-column lists
 - ▶ List box and dropdown lists now support the same features as the record picker, including different view styles and picture columns
 - ▶ Each column can be independently bound to a different data source
 - ▶ Each control can be bound to a different database

Card view example

Data Entry Form

Select records to print:

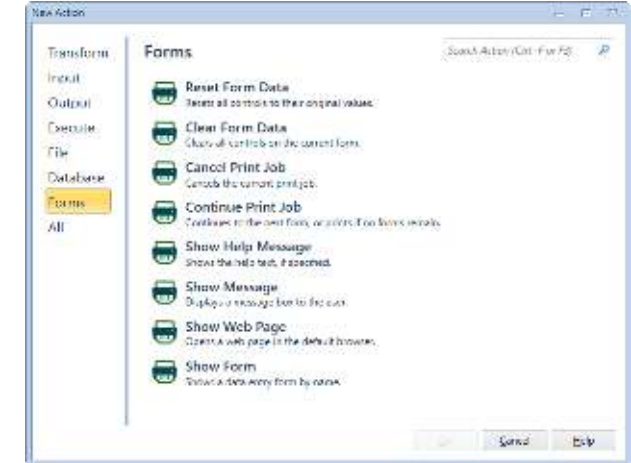
<p>TOYOTA</p> <p>Record N 1</p> <p>Trademark: Toyota Name: Venza Modification: LE FWD Category: Crossover & SUV Body Style: Sport Utility Vehicle Photo:</p>  <p>Price: \$28,695.00</p>	<p>NISSAN</p> <p>Record N 3</p> <p>Trademark: Nissan Name: Murano Modification: S FWD 3.5L V6 VA Category: Crossover & SUV Body Style: Sport Utility Vehicle Photo:</p>  <p>Price: \$29,285.00</p>	<p>Audi</p> <p>Record N 5</p> <p>Trademark: Audi Name: Q5 Modification: 2.0L T4 8A Category: Crossover & SUV Body Style: Sport Utility Vehicle Photo:</p>  <p>Price: \$36,795.00</p>	<p>SUBARU</p> <p>Record N 7</p> <p>Trademark: Subaru Name: Forester Modification: 2.5L H4 SM Category: Crossover & SUV Body Style: Sport Utility Vehicle Photo:</p>  <p>Price:</p>
<p>Ford</p> <p>Record N 2</p> <p>Trademark: Ford Name: Edge Modification: SEL FWD 3.5L V6 5A Category: Crossover & SUV Body Style: Sport Utility Vehicle Photo:</p>  <p>Price: \$31,995.00</p>	<p>Honda</p> <p>Record N 4</p> <p>Trademark: Honda Name: Crosstour Modification: EX 2WD 2.4L I4 5A Category: Crossover & SUV Body Style: Sport Utility Vehicle Photo:</p>  <p>Price: \$28,060.00</p>	<p>BMW</p> <p>Record N 6</p> <p>Trademark: BMW Name: X3 Modification: 2.0L I4 8A Category: Crossover & SUV Body Style: Sport Utility Vehicle Photo:</p>  <p>Price: \$39,775.00</p>	<p>Volkswagen</p> <p>Record N 8</p> <p>Trademark: Volkswagen Name: Tiguan Modification: S 2.0L I4 5M Category: Crossover & SUV Body Style: Sport Utility Vehicle Photo:</p>  <p>Price:</p>

Enter Quantity: 1

Print Cancel

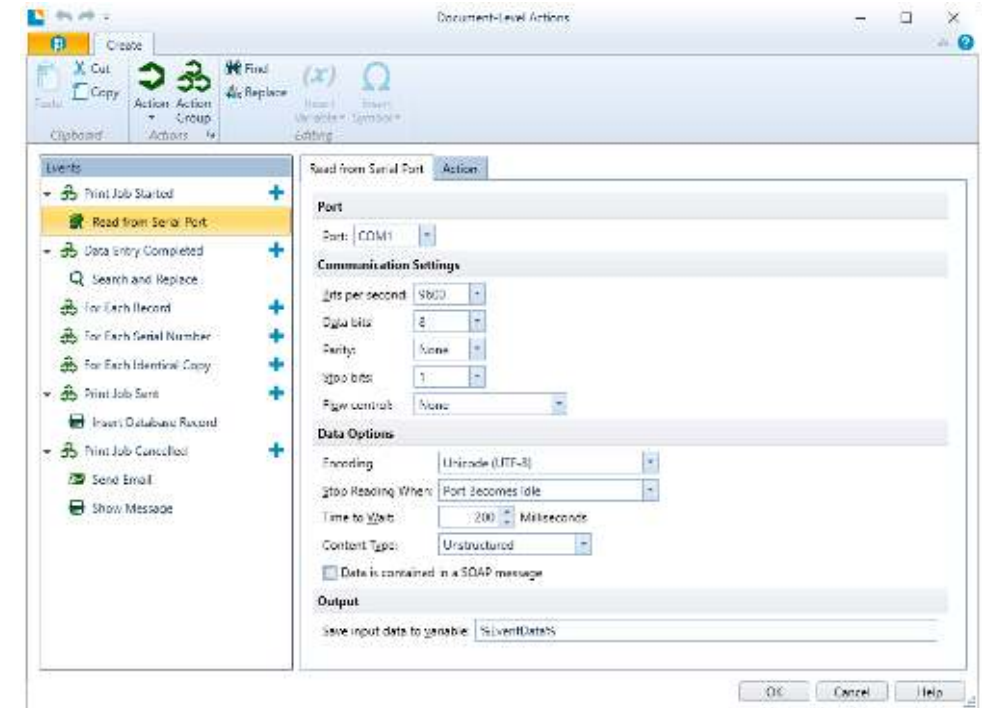
Form actions

- ▶ New controls
 - ▶ Button control
 - ▶ Hyperlink control
- ▶ Support for actions
 - ▶ Navigate to and show another form
 - ▶ Execute any action(s) supported by Integration Builder
 - ▶ Includes new actions like create/update/delete database record
- ▶ Forms no longer limited to printing labels
 - ▶ Build simple applications that can manage database records, send e-mails, save PDFs, and more...



Document actions

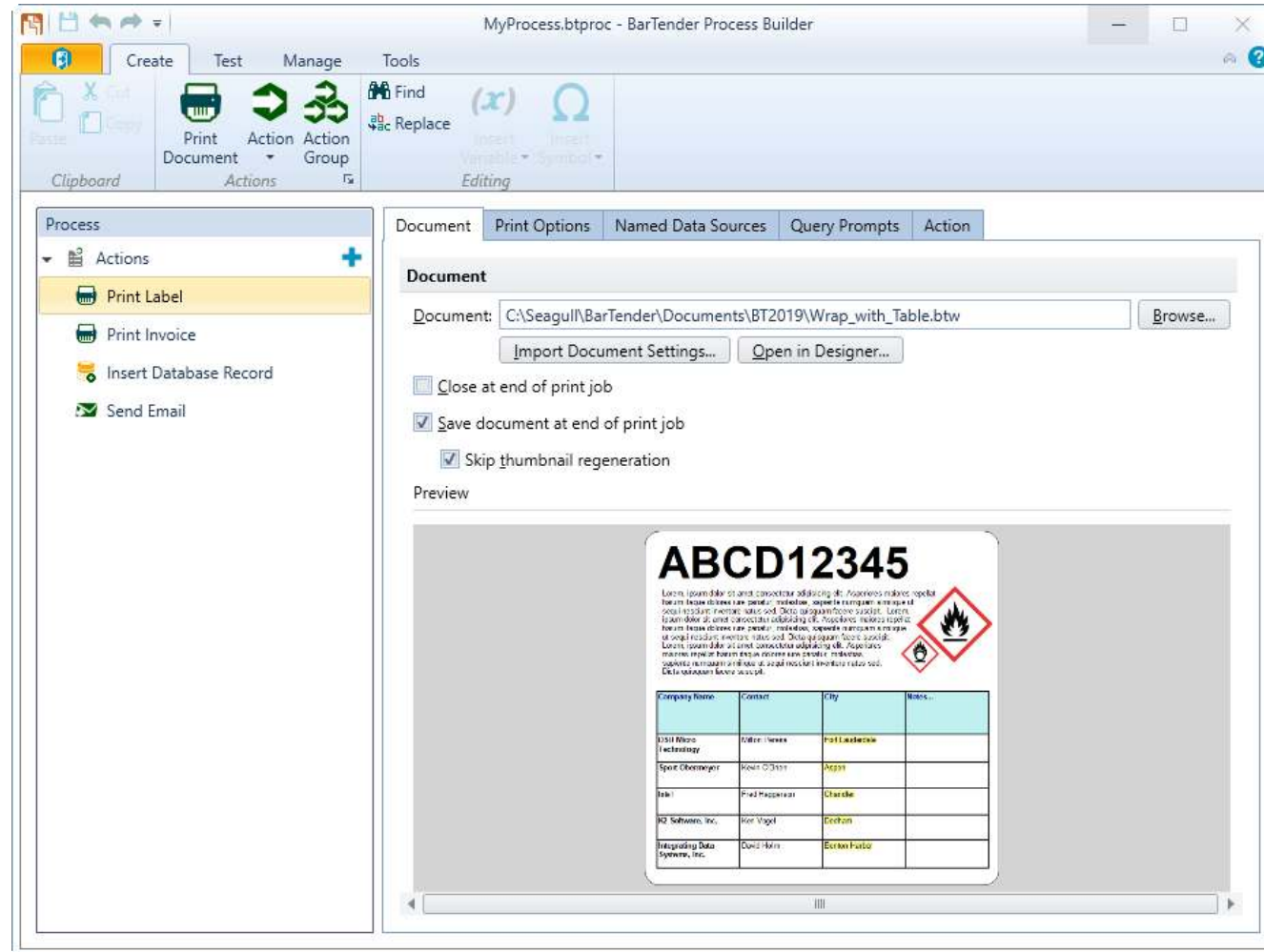
- ▶ Execute actions on specific events such as a printing a document
- ▶ Events include: print job started, data entry complete, for each record, for each serial number, for each identical copy or print job sent, and print job cancelled



Process Builder

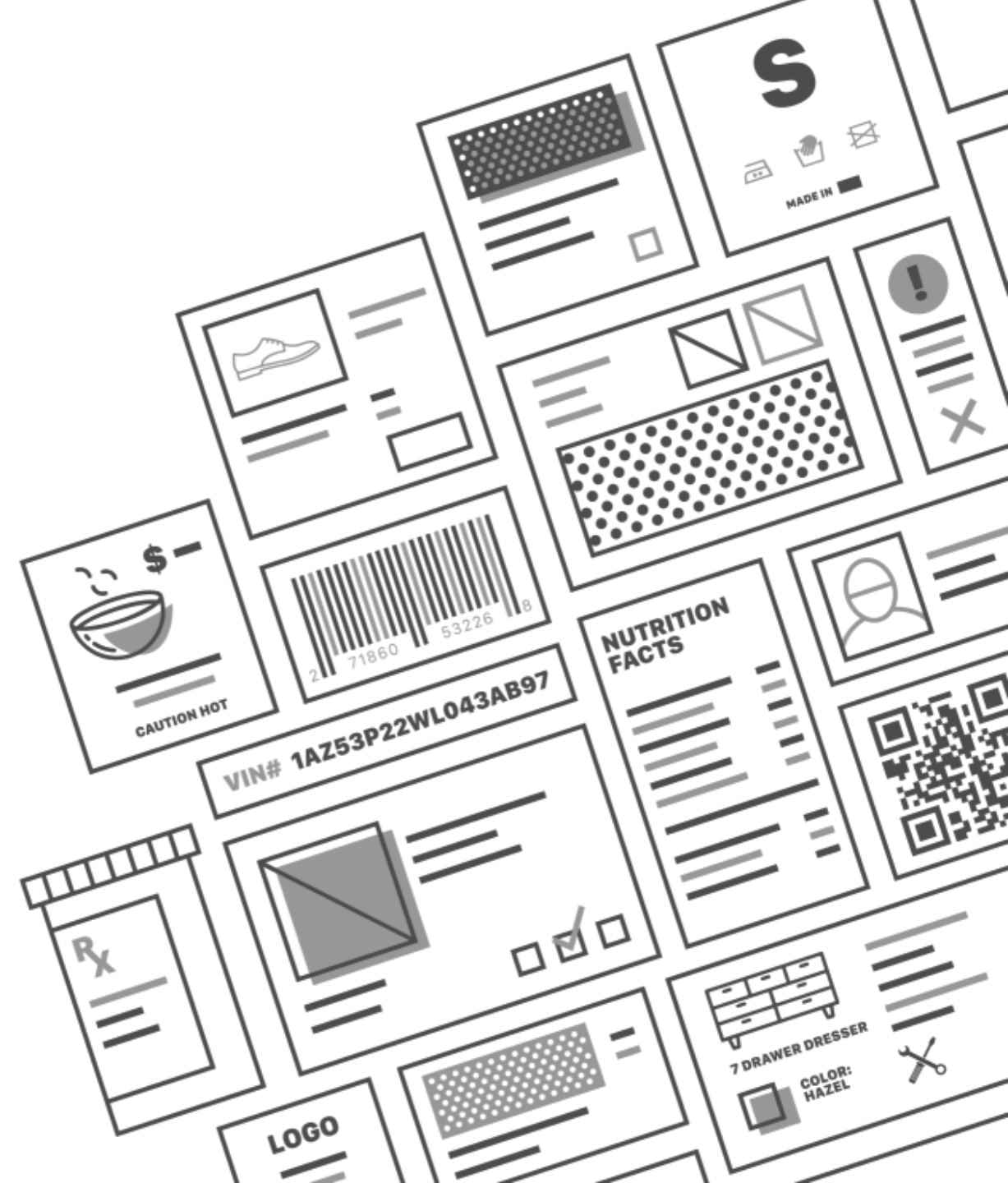
- ▶ Batch Maker was an easy-to-use tool with a single limited purpose
 - ▶ Print multiple BarTender documents in order
 - ▶ File can be executed from Print Station or by double-clicking it
- ▶ Process Builder replaces this with something more powerful
 - ▶ It is still very easy to print a sequence of documents like Batch Maker
 - ▶ Also supports any of the actions supported by Integration Builder: send e-mail, copy files, write to a database, and more...
- ▶ Storage format has changed
 - ▶ It is no longer uses BTXML underneath, since it goes far beyond the capabilities of that format
 - ▶ It now uses a similar XML file format to Integration Builder
 - ▶ The old BTBAT files can still be executed

Build a process to execute



Printing Enhancements

PDF, PRINTER MANAGEMENT



Native support for PDF

BarTender now includes a built-in PDF printer for quick and easy printing to PDF.

- ▶ Optimized output
 - ▶ Uses text and vector commands where possible
 - ▶ Considerably faster than using third party printer driver
- ▶ BarTender can automatically generate PDF names using a pattern and incrementing number, or prompt the user at print time
- ▶ Support for PDF encryption with passwords
- ▶ No need for third party PDF drivers that often require additional licensing, which are often difficult to configure, and are prone to causing problems in automated solutions

Data sourced printer

- ▶ Printer name can now come from a data source
 - ▶ Interface is similar to data-sourcing copies or serial number quantity
- ▶ Data entry controls can now be used to specify the printer
 - ▶ List controls can be populated with all printers on the system
 - ▶ It is also possible to use a specific list of allowed printers
- ▶ Selection is used only to start the print job
 - ▶ Changing printers in the middle of a print job is not currently possible

Printer setup

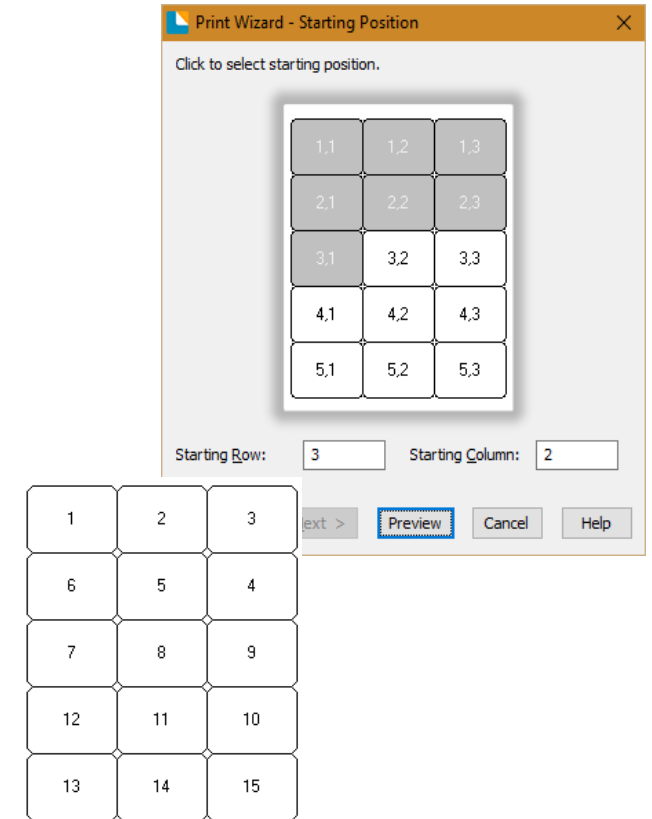
- ▶ New module in Administration Console
 - ▶ Replaces "Advanced Printer and Driver Setup"
 - ▶ Adds new features to manage default printer, redirection and failover
- ▶ Default printer management
 - ▶ Default printer can be managed by Windows (existing behavior)
 - ▶ BarTender can also manage its own separate default printer setting
- ▶ Printer redirection and failover
 - ▶ Redirects all output intended for one printer to another printer
 - ▶ Can be used to take a printer temporarily or permanently offline
 - ▶ Can automatically redirect jobs when a printer is unavailable, paused, or has an error condition such as out of paper or ribbon

Printer switching in a document

- ▶ In existing versions of BarTender, it can be difficult to design templates that print on different brands of label printers
 - ▶ Templates may be optimized using native printer fonts
 - ▶ Printer-specific settings may be stored with the document
 - ▶ Switching from one printer model to another will completely lose these printer-specific settings
- ▶ We have a new “hidden feature” that fixes this problem
 - ▶ A history of printer-specific settings, including fonts, is now stored in the document
 - ▶ Switching between printer A and printer B will remember the fonts and settings for both printers separately
 - ▶ Settings are remembered until you make a "significant change" – minor sizing tweaks to make objects fit will be remembered for each printer

Print order improvements

- ▶ Print Order is used to specify the order labels print when printing multiple labels per page
- ▶ Snaking print order is now supported
 - ▶ This is when the direction alternates between rows or columns
- ▶ Prompting for the starting label can now accept the row and column
 - ▶ Entering the starting label by number was impractical when printing a large number of labels per page



Standardized error handling

Currently, when a picture file is not found, we can ignore it, ask the user to abort the print job, or just abort it.

- ▶ Similar, but extended error handling functionality has been added for all BarTender design objects
 - ▶ Data is empty
 - ▶ Data is invalid
 - ▶ Object does not fit on label
 - ▶ File is not found
- ▶ Several different actions may be taken
 - ▶ Display warning in design view
 - ▶ Prompt to abort print job, or just abort it
 - ▶ Print with placeholder data (e.g. “* * ERROR * *”)
 - ▶ Log messages

Integration Platform

AUTOMATED PRINTING THROUGH INTEGRATION THAT IS
EASY TO BUILD AND FAST TO DEPLOY



Integration Builder improvements

- ▶ Usability improvements
 - ▶ More wizards and other UI tweaks to make things easier to understand
 - ▶ Distinct graphics for easier identification of actions & integrations
 - ▶ Overhauled ribbon
 - ▶ Divided UI into better tabs
 - ▶ Search and replace
- ▶ Overhauled deployment feature
 - ▶ Easier to understand
 - ▶ Support for server maintenance window (allow deployments to occur only during set times)

New Integration Builder actions

- ▶ File System

- ▶ Copy, move, rename, or delete folders
- ▶ Add files to archive, extract files from archive (ZIP)
- ▶ Execute action for each file in a folder or archive
- ▶ Works with any supported file system (local, FTP, Amazon S3, Dropbox, etc.)

- ▶ Database

- ▶ Insert, update, or delete database records
- ▶ Execute custom SQL statements

Integration Builder expressions

- ▶ Extended syntax of integration variables to support expressions
- ▶ Support for getting length of string, substrings, mathematical operators, and more
- ▶ Most places that accept a variable such as `%MY_VAR%` will also accept an expression such as `<%MY_VAR.length%>` or `<%MY_VAR.substr(2,5)%>`
- ▶ Expressions are evaluated using JavaScript, adding a lot of flexibility

Example	Description
<code><%MY_VAR.length%></code>	Length of MY_VAR in Unicode characters.
<code><%MY_VAR.substr(3,8)%></code>	Substring of MY_VAR, from character 3, length 8
<code><%MY_VAR.substr(FIRST_CHAR)%></code>	Substring of MY_VAR (all characters after index FIRST_CHAR)
<code><%Math.max(MY_VAR, 5)%></code>	Return MY_VAR or 5, whichever is bigger.
<code><%3 + 5%></code>	Return 8
<code><%1 + Math.abs(X1 - X2) + MY_VAR.length%></code>	Example of function and property

Integration Builder testing

- ▶ Testing UI was generally redesigned to be easier to use
- ▶ Samples
 - ▶ It is now possible to record samples of incoming data
 - ▶ You can view the sample to see the structure of the incoming data
 - ▶ You can use the sample to simulate an integration being triggered, so you can debug a process without needing to re-trigger it on the external system
- ▶ Simulated Printing
 - ▶ Enable "simulated print" to capture output to an image and quickly show the result
 - ▶ Makes it easier to debug complex transforms without wasting label stock

Build and test with ease at speed

The image displays three overlapping screenshots of the BarTender Integration Builder software interface, illustrating the workflow from design to deployment.

Top Left Screenshot: Shows the 'Integration Builder' window with a document titled 'Product Labeling'. The 'Document' tab is active, showing a preview of a label with fields like 'Field: COMPANY', 'ABCD12345', and a barcode. The 'Integrations' pane on the left lists 'Product Labeling' and 'Logging Job'. The 'Actions' pane on the right shows a sequence: 'Integration' (Service), 'Input Data', 'Response', 'Variables', 'While Loop', 'Print Document', 'Insert Database Record', and 'Write File'.

Top Right Screenshot: Shows the 'Deploy Integration File' dialog box with the 'Schedule Deployment' tab selected. It provides options for when to deploy the integration file: 'Deploy now', 'During server maintenance window', or 'On specified date and time'. The 'On specified date and time' option is selected, with the date set to '08/02/2019' and the time to '00:00'. Buttons for 'Back', 'Next', 'Finish', and 'Cancel' are at the bottom.

Bottom Screenshot: Shows the 'MyIntegration.btm - BarTender Integration Builder' window. The 'Status' tab is active, displaying the status of the 'Product Labeling' integration. It shows 'Status: Stopped', 'Event Occurrences: 0', 'Last Started: Not Started', and 'Integration Type: Web Service Integration'. The 'Integration Events' pane shows 'There are no messages.' The 'Messages' pane at the bottom shows 'There are no messages.' and includes tabs for 'Errors', 'Warnings', and 'Messages'.

