# Loftware NiceLabel

# 2019.3 Release Notes

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**Release Notes**

NiceLabel 2019.3

# 1. New in Label Cloud

## 1.1. New edition Label Cloud Compliance

Label Cloud Compliance is a new edition in the Label Cloud product range aimed at life-science customers. Pharmaceutical, biotech, clinical laboratory, and medical device organizations must comply with industry regulations and enforcement. Labeling processes are no exception. Compliance failures can be costly, both in terms of fines, remediation costs, and reputational damage.

Therefore, identifying, analyzing, and mitigating compliance risks are essential for a successful business. Label Cloud Compliance addresses those risks and provides mature compliance functions and skills for the labeling/marking processes.

Label Cloud Compliance is based on Label Cloud Business, but adds features that are important for regulated environments:

- **Included Three-tier environments (DEV, QA, PROD).** You will get three Label Cloud instances so you can follow the best practices for the development, testing, and deployment of your NiceLabel labeling solutions.

- **Relaxed software release cycle.** While NiceLabel Label Cloud is updated two or three times per year, the Label Cloud Compliance will have just one release each year. Furthermore, we will upgrade the production tiers three months after the development and QA tiers have been updated. Less frequent release cycles and extended delays for production tier upgrades will lower the burden on your compliance teams and give you enough time to validate new environments.

- **Included Validation Acceleration Pack (VAP).** NiceLabel VAP is a tool that simplifies alignment with industry standards, increases productivity, and minimizes costs of labeling validation. VAP includes document templates for risk assessment, validation plan/report, user requirement specifications, training material, installation qualifications, user acceptance testing, and others. Additionally, we will include internal NiceLabel test reports for all new features per release to help you speed up your testing/validation processes.

- **Twelve years of print history.** Your Label Cloud will store details for the last 12 years' worth of print events from all workstations. If that is still not enough, you can use one of the upgrade plans to extend the retention period.

## 1.2. New and improved functionalities

### 1.2.1. Print history download

Your Label Cloud account keeps the print history data for the time period defined by your product level. For example, Label Cloud Business will keep data for a year, Label Cloud Compliance will keep data for

twelve years. You can search for and analyze the data inside the Dashboard within that data retention period.
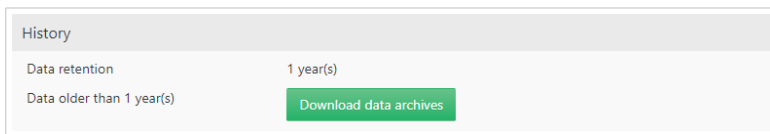


Figure 1: Downloading archived print history data for your Label Cloud account

Data older than the retention scope is not available for analytics online but is archived and available for download. You can download it in a Microsoft Access database and store it on-premise. You can download the archived data for up to six months after its data retention period.

## 1.2.2. Label Cloud status page

We have published a new page providing status information on the services that are part of the NiceLabel Label Cloud platform. You can monitor live information for each data center location as well as see uptime information for the past 90 days for system performance, system maintenance, and service interruptions.

The monitored services are: sign-in site, dashboard, document storage, web printing site, APIs (cloud trigger and cloud print), and customer databases.

The cloud platform support team monitors the status of services using many different types of signals and updates the dashboard in the event of a widespread issue. If needed, they will post a detailed incident analysis report after the incident has been resolved. You can also subscribe to notifications.

The status page is accessible at:

https://status.onnicelabel.com
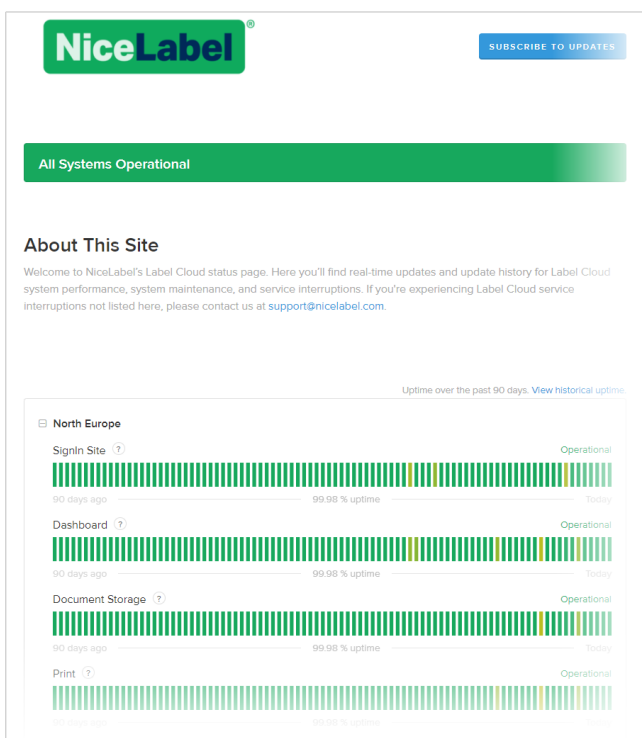
Figure 2: Status page displaying the live status of Label Cloud services

### 1.2.3. Configurable e-mails for service update notifications

Our NiceLabel Label Cloud product range is based on the subscription model, where you use a cloud service that *just works*. We take care of the infrastructure and service availability. We send occasional e-mails about the service status, planned maintenance, planned upgrades, and similar. The Label Cloud platform is developed with high-availability in mind so these activities do not influence accessibility to Label Cloud services.

Before, these notifications were sent only to the Label Cloud account owner – the person that initially claimed and activated the Label Cloud account. With this release, you can add as many email addresses to the notification list as you need and all recipients will receive the same notifications.
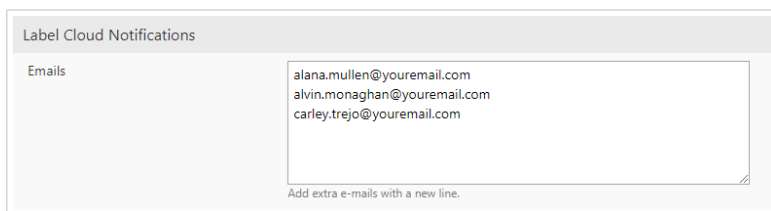


Figure 3: Configurable email addresses for system notifications

### 1.2.4. New access role: Service provider

There is a new access role available with Label Cloud – **Service provider**.

This role is dedicated to the external users like your NiceLabel vendor, external technical support members, or the provider who maintains your NiceLabel solutions. The role is meant to provide

access to your account for support, setup, and administration. It has no members by default.
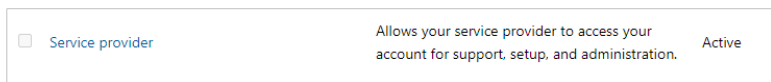


Figure 4: New Service Provider default access role

For example, you would invite external members (like your NiceLabel partner) to create print solutions for you with NiceLabel software, they would train your users on how to use a solution and then hand it out to you. However, the NiceLabel partner would keep access to your Label Cloud for proactive maintenance and support. The partner can monitor your Label Cloud for problems and step in when needed.

Initially, the role has full administrator permissions but you can fine-tune the access level as needed.

## 1.2.5. New printers supported for Cloud Print API (IoT printing)

One of the important features of Label Cloud products is support for cloud-enabled printers. You can use Cloud Print API to print labels to your printers without any NiceLabel footprint on-premise. All you have to do is connect your printer to the internet and register it with Label Cloud.

Cloud Print API can send labels to registered printers on your shop floor.
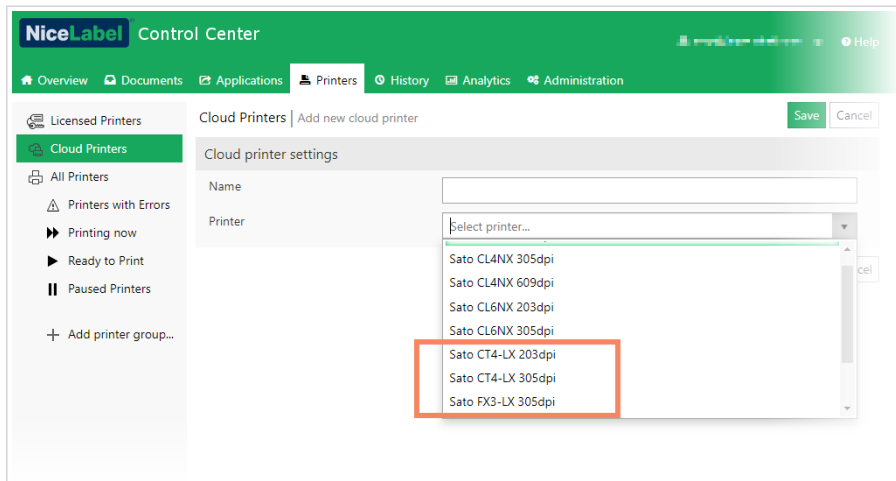


Figure 5: More cloud-enabled SATO printers supported by IoT printing

In 2019.2, Cloud Print API supported all LinkOS-enabled Zebra printers and selected SATO printers. 2019.3 supports two new SATO models: CT4-LX and FX3-LX.

## 1.2.6. High-throughput Label Cloud API

The standard Label Cloud API has a limitation of 5 calls per second. That frequency is suitable for the majority of labeling projects.

Sometimes, there are requirements for even faster printing. To satisfy demands for higher print frequency, a new high-throughput Label Cloud API is available. The new API expands the throughput to 30 calls per second and 50,000 calls per hour, whichever is achieved first.

The new API is not included in the Label Cloud subscription by default. You can include it as an add-on for an additional charge. Please contact us for details.

## 1.2.7. NiceLabel Label Cloud subscription available from a new region

NiceLabel Label Cloud provides document management as a service. The Label Cloud deployment you use to login to your cloud Control Center should be as close to your physical location as possible to ensure an optimal user experience and to minimize network latency.

NiceLabel Label Cloud is now additionally available from the following Microsoft Azure data centers:

- South Central USA

### 1.2.8. Cloud printers reconnect upon Label Cloud upgrade

When we upgrade your Label Cloud account to a new release, all connected label cloud printers are forced to reconnect to the service. This ensures they establish a connection to the upgraded service.

The reconnection is a seamless process. If a printer is currently busy processing a cloud print job, it will reconnect when printing completes.

### 1.2.9. TLS 1.0 and 1.1 cryptographic protocols are disabled

Transport Layer Security (TLS) 1.0 and 1.1 are no longer supported. We have disabled them for the NiceLabel Label Cloud platform with this release. These are out-of-date protocols that do not support modern cryptographic algorithms, and they contain security vulnerabilities that may be exploited by attackers.

All endpoints are required to support TLS 1.2 in order to function properly. TLS 1.2 was introduced over a decade ago, so if you regularly update your Windows and software, there is really nothing you have to do.

### 1.2.10. Label Cloud getting started video series

We have a new video series to guide you through the Label Cloud set up process. Topics include:

- Activating your account
- Adding users
- Managing Access Roles and Permissions
- Downloading and connecting software
- Printing your first label

You can watch the videos on NiceLabel's YouTube channel.

## 1.3. Integration options

### 1.3.1. NiceLabel Cloud API for Workday

NiceLabel Cloud provides label printing support for **Workday**, the cloud system for finance, HR, and planning. You can **print labels directly from Workday on your cloud-connected printers** with no on-premise NiceLabel footprint and no printer driver installation.

Our NiceLabel Cloud API for Workday:

- Accepts Workday XML payloads.

- Generates print jobs (for example, using ZPL for Zebra printers).

- Sends print jobs to your cloud-connected printers.

**Workday supports XML data exports from multiple business processes**, so you don't need to develop anything new.

You must **configure your outbound connection** from Workday to your new NiceLabel Cloud API and send XML payloads to the API.

The API recognizes the XML type and executes built-in workflows to extract data and print associated labels on your printers.

## 1.3.2. Updated ABAP Package

The updated ABAP Package V2 exposes more functionality from NiceLabel software to SAP and makes the task of integrating with SAP even easier.

New features:

- **Supply chain documents.** You can use your ABAP Package to print your labels and supply chain documents. The ABAP Package supports the new Report object in label templates. You can send data for your packing documents into the ABAP Package and print it as A4/Letter packing documents.

- **Support for Cloud Print API.** When you use NiceLabel Label Cloud subscription, you can use Cloud Print API to print data to your cloud-connected (IoT) printers without any NiceLabel footprint (e.g. NiceLabel printer drivers or software). You can use the ABAP Package to print labels to both your on-premise and your cloud-connected printers.

- **Data model export.** One of the greatest challenges with creating label templates is acquiring the names of SAP data sources. Transactions, classifications, and other sources of data in SAP all use various names for data fields. In order for the ABAP Package to map values from SAP to label objects correctly, the names of data sources in SAP and label templates must match. Your ABAP Package can create a NiceLabel data model from the provided SAP data structures. As a result, you get a definition file of all the label variables that you can import into your label template.

- **PI/PO support (Process Integration & Orchestration).** Some organizations prefer to exchange the SAP outbound communication through a centralized point (an integration broker), not directly with the endpoint. PI/PO integration platform is such integration broker to seamlessly connect SAP with the external system (such as NiceLabel Automation). ABAP Package supports connectivity through PI/PO.

- **Custom printer settings.** We have extended the inbound interface for ABAP Package with an additional field to provide custom printer settings. When designing label template in NiceLabel software, you can store printer settings in various places (e.g. hardcode it in the label templates itself, recall it from the printer driver, rely on the settings as configured in the printer, etc.) You can override the existing printer settings with this new option. This is a useful option to fine-tune printout for cloud-connected printers, where there are no printer drivers to configure.

- **Support for the creation of label variants.** The ABAP Package can use NiceLabel's variant technology to prepare label variants for each label that is needed, down to the SKU level without having to manually create hundreds or thousands of label variations.

# 2. New in Designers

## 2.1. Label designer

### 2.1.1. Printing of supply chain documents (printing reports)

NOTE: This feature requires NiceLabel PowerForms or above. Integrated printing requires NiceLabel LMS Pro or above.

Printing reports with NiceLabel completes your labeling and shipping cycle, helping you go from product labeling to shipment with the same software. You can print reports from within NiceLabel without the need for third party applications. Report printing avoids the cost of having to learn, develop, and maintain third party applications just to print your reports.

You can design supply chain documents, like

- Delivery notes

- Pick lists

- Packing slips

- Reports

- …

Figure 6: Design of report in NiceLabel Designer and printed result

Reports are labels/pages that display database data as custom tables. Report printing organizes your data into rows. Each row will display data from one record in a database. You can use any NiceLabel object within a row and link it with a data source. The Report object will iterate through all records and expand on the next label/page(s), when there is too much data to fit in the current label/page.

You can add headers and footers to explain more information about your data.

You can print supply chain documents on-demand from PowerForms applications and also integrated into your business system with NiceLabel Automation.

## 2.1.2. Object panel

In NiceLabel Designer, your Objects panel lists every object on your design surface, making it simple to find and select exactly the objects you want on your label templates or forms. You can search and organize your objects within layers, both separately or in groups. Each layer shows your objects and object groups in a tree structure.

The Objects panel will make it easier to work with the complex label templates with a lot of dynamic content, overlapping objects, and multiple layers.
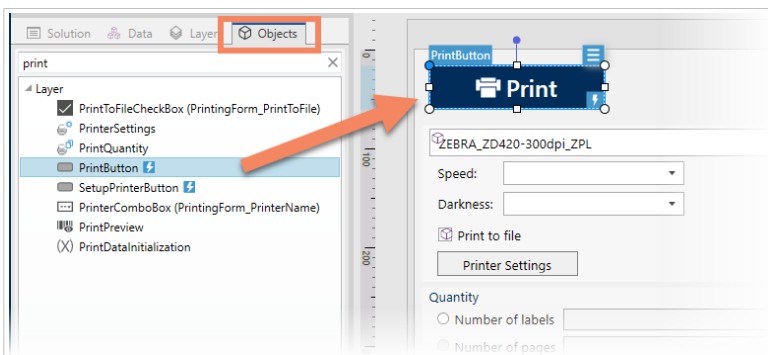


Figure 7: Filtering form objects to those containing "print" in their name and selecting the PrintButton

Use your Objects panel to:

- Search for objects by name or by connected data sources.

- Display action indicator icons after object names when your objects have actions assigned.

- Rename objects (when you press F2 on your keyboard).

- Quickly access the options in your object's context menu.

Objects panel lists the objects chronologically in the order you created them (newer on top).

## 2.1.3. New Help platform

We are revising and rewording much of our NiceLabel help content to make it clear, concise, and easy to understand. This release introduces a new NiceLabel help system based on a new platform and provides a modern visual user interface, search, and better navigation through our existing content.

Nicelabel help opens in your browser when you click **Help** or press **F1** in NiceLabel programs.
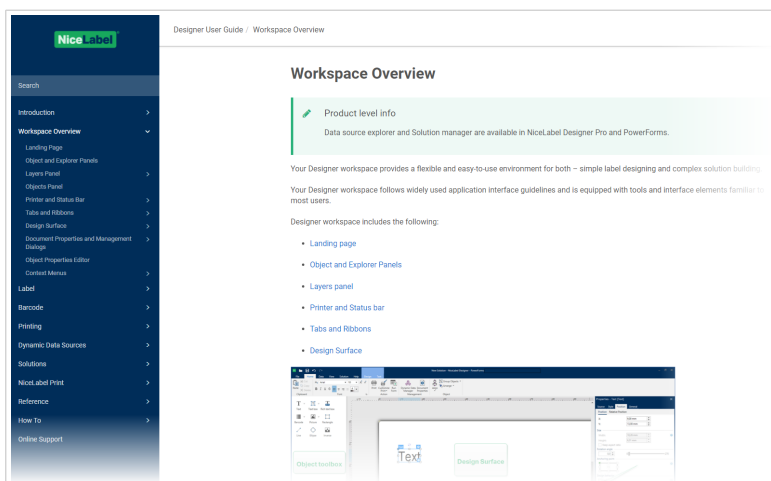


Figure 8: Revised and rewritten NiceLabel Help uses a new platform

## 2.1.4. Performance optimizations

- **Checking out label.** NiceLabel Designer will no longer reload the label when the user wants to check it out or discards the checked-out label. For snappier performance, NiceLabel Designer will only reload the label, if the label was modified on the server or when discarding the checkout of a locally modified label.

- **Performance optimization when clients interact with Document Storage.** There is less overhead communication when NiceLabel clients request information from Document Storage. Operations like opening and saving files, checking in, checking out, and discarding check out are optimized and require fewer calls to the API. As a result, NiceLabel clients respond faster.

## 2.1.5. Picture object supports Base64-encoded graphics

You can provide content for the Picture object with a new type of data input. The Picture object supports raw Base64-encoded data. This works for Picture objects in labels and forms.

Base64 is an encoding algorithm that transforms any data into text-based representation, which you can send with other data in XML or JSON payloads to NiceLabel API endpoints. You no longer have to convert the received Base64-encoded image to a file on a disk. The Picture object will decode the Base64 data into the original binary stream and use it.

```
{
  "Label": [
    {
      "Location": "XYZA12EEE45",
      "PartNumber": "987654322",
      "PickQuantity": "5",
      "QAIndicator": "Q5",
      "FitID": ",1234568/CC-D3 A/T",
      "Batch": "983274-5-3-6",
      "PartDescription": "PLATE PIVOT R/H BREAKER WDRAWAL 80mm H STEEL Z/P PASSIVATE",
      "Image": "iVBORw0KGgoAAAANSUhEUgAAAWMAAAACWCAIAAACEiH6oAAAABmJLR0QA/wD/AP
        +gvaeTAAAYyElEQVR4nO2db2gbR97Hx096g86RKr4kvDrLUqx3fHVnfET825LBKXtTGhaYNtKvjaHMvmiqv7ukr
        QnleyX5l7ZStv7AeOk54D05Y7kC9QnJZAw4acZShuHOpIkJIm4VRtEM0fcUH3YpLpeP/M7K6k3ZX8+7ww693uzs:
        +85vfzHbV63UEAADA5/8TgAAAG0AKAUAAGGJAKQQAAEANKAQCAGFAKAADEgFIAACAlAIAADGgFAAAiAGlAABADCgFAAE
        CkAABADSgEAgBhQCgAAxIBSAAAgBpQCAAAxoBQAAAAYkApAAAQA0oBAIAaUAAIAYUAoAAMSAUgAAAaaUga:
        AUAACIAuUAAEAMKAUAAGGJAKQQAAEANKAQCAGFAKAADEgFIAACAlAIAADGgFAAAiAGlAABADCgFAABiQCkAAADSgEA
        n/E7ADi7dvv2Pb74pVatarabValfu3sWh0OiLL2q1mhSJ4Do1cHo+FwNBz2O6V02Ioly/v/dvr11
        /z4phHcePhVq1IkcnDfPq1WSxw6Ox7 HodBuK4Rd9Xrd7zSg1Vu3/vTll6u3btn/iRSJDGPycN8+xoMP
```

Figure 9: You can provide image data as part of the data payload (PNG data is encoded in Image field)

> **NOTE**
>
> The other supported data types for Picture object are image file in a file system or from Document Management System, and BLOB database fields.

## 2.1.6. Updated NiceLabel Label Converter for BarTender documents

This new version of NiceLabel Label Converter imports more design features from your BarTender label templates and provides more accurate NiceLabel variants of the label template. However, this requires you have at least BarTender 2016 installed on the computer where you run NiceLabel Label Converter.

Improvements:

- Time and Date data types are now correctly imported as time and date variables. The default format for Date is "dd/MM/yyyy" and for time "HH:mm:ss". Other data types are still imported as text.

- Better detection of the anchoring points.

- Import of embedded images.

- Various bug fixes.

## 2.1.7. Script editor for VBScript Expression

VBScript Expression is a data source that accepts one line of VBScript code. You no longer have to blindly enter the code into the edit field. You can click Script editor button and use the script editor. This is the same editor as we use for editing VBScript code.
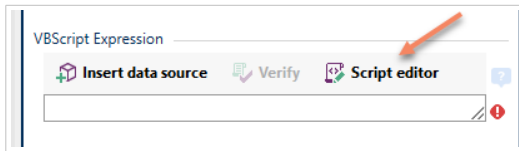


Figure 10: Script editor available for VBScript Expression data provider

## 2.1.8. ECI encoding

Extended Channel Interpretation (ECI) encodes information about used code pages (e.g. UTF-8, Windows-1251) into the barcode symbol. ECI encoding tells barcode readers which "code page" to use to correctly decode the content. It allows usually unsupported national characters sets such as Arabic, Greek or Japanese, to be used in barcode symbols.

ECI encoding is available for Data Matrix and QR 2D codes.
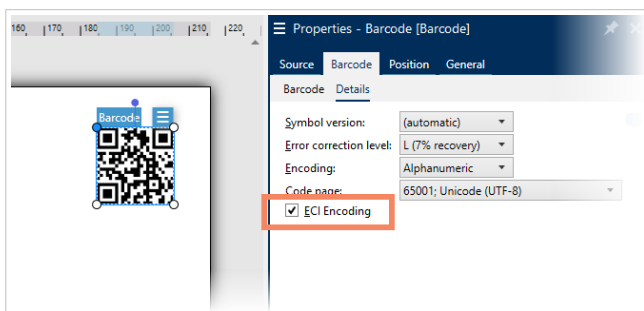


Figure 11: ECI Encoding option available in DataMatrix and QR Code properties

## 2.1.9. Updated support for data-encoding and business communication standards

- **Updated support for GS1 general specifications.** NiceLabel supports the new GS1 Application Identifier 395n for price per unit of measurement. This allows encoding the "price/kg" in a barcode to scan it at POS and then print on cash receipt. The GS1 Application Identifier digit shown as "n" indicates the implied decimal point position.

- **Updated support for Data Identifier and Application Identifier Standard ANSI MH10.8.2.** NiceLabel supports all data identifiers from the latest update of the standard (August 27, 2020): 25D, 26D, 27D, 28D, 26H, 8J, 18L, 35L, 36L, 53P, 54P, 7R, 8R, 9R, 23V, and 24V.

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## 2.1.10. More control for import of data sources

In NiceLabel Designer, you can import data sources (variables) from existing label templates, solutions, variable lists, and other definition files. This saves time defining a new label template or solution that re-uses data sources that you've already defined in some other project.
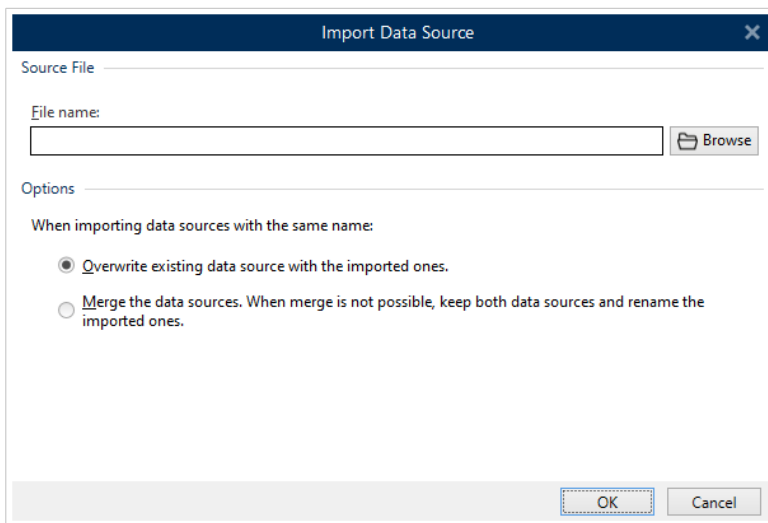


Figure 12: Selecting between overwrite and merge import modes

This release provides more control over how the data sources are imported:

- **You can overwrite the existing data sources.** The new data source from a file overwrites the existing data source. The mapping is done by name of the data source. This was a default action in NiceLabel 2019 so far.

- **You can merge data sources.** In this case, the data source settings from the file are merged with the existing settings of a data source. The mapping is done by name of the data source. However, when data sources are too distinct, the new data source will be imported with a new name. There are two factors determining data source likeness: default value and variable data type (e.g. text, date/time, counter, etc.)

The new option provides a choice for designer, when importing data sources from several definition files into the same label or solution and the overwrite is not always a desirable option.

## 2.1.11. Update to graphic merging options

You can already select how NiceLabel should print graphic objects in the label template. Graphics objects are always rendered by NiceLabel and sent to the printer as images. You can configure NiceLabel to send each graphic object to the printer separately or send them all merged into one big graphic.

These settings are usually configured for high-throughput label printing, whenever the print action must complete as fast as possible.

There is a new fine-tuning option to exclude some of the objects from being combined into one graphic.
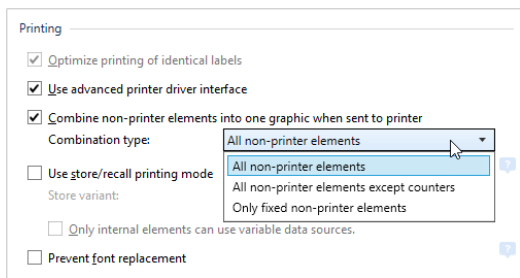


Figure 13: Additional graphic merge option

There are two supported scenarios to do it:

1.  Include the word "DONOTCOMBINE" anywhere in the object name. That object will not be merged into the graphic and will be sent to the printer as a separate graphic object.

2.  Include the word "DONOTCOMBINE" in the data source name. All objects that get value from this data source will not be merged into the graphic and will be sent to the printer as separate graphic objects.

## 2.1.12. Font replacement can be enabled for label variants

NOTE: Product level NiceLabel Designer Pro or above is required for this feature.

Label variants are label templates that originate from the same master label template, but have embedded the production data and are not editable. The only unlocked data sources in label variants are variables that get values just before a production run, like Lot/Batch or production and expiration dates.

Label variants have the "prevent font replacement" option enabled by default. The label variant does not print when fonts used in the label template are not available on the workstation.

In some organizations, the replacement of fonts is allowed. For such cases, you can add a switch to the product.config file to enable the replacement feature.

You can add a new XML element in the following location and assign **True** value to it.

/Common/General/ForceFontReplacementForLabelVariants

This switch will have an effect on label variant printing in NiceLabel Print, NiceLabel Web Client, and NiceLabel Automation.

## 2.1.13. Setting asterisk visibility in human readable Code39 barcodes

Code39 is a barcode type that encodes up to 43 characters including numbers, letters, and some symbols. Its main area of use is in industrial fields, especially automotive and electronics. Code39 uses the asterisk character (*) as start and stop characters.

The asterisks are not part of the barcode data but are displayed in the human readable portion on the left and right side of the encoded data. You can control the visibility of the asterisk characters.
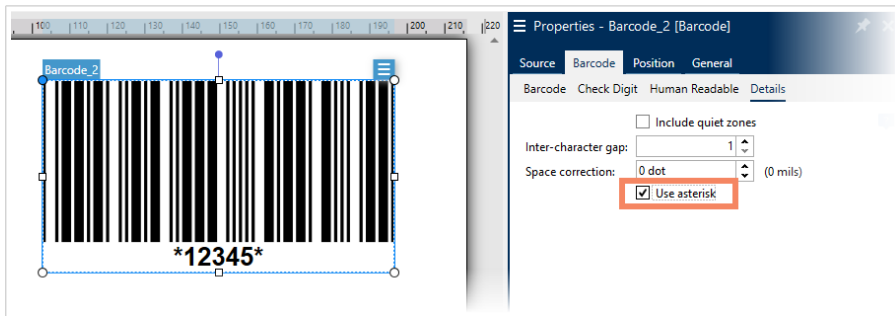


Figure 14: Configurable asterisk visibility in human readable

# 2.2. Application designer

## 2.2.1. Modifying label template during printing

NiceLabel software is already strong in its support for dynamic label templates. You can design a label template where label objects change not only their content and visibility but also their position, all based on the input data. You can print a label to any available printer, not just the printer you selected during the design.

With this release, we raised expectations for universal label design.

- You can override the label properties saved in your template with the custom values you need for your currently selected printer model or currently selected media type.

- You can adjust the definitions of your label just before you print, including width, height, margins, and labels across. You can rotate the label 90° degrees (changing portrait/landscape mode) to fit the same label template to two media types. You can also disable cutter settings if that is something you don't need in a particular print action.
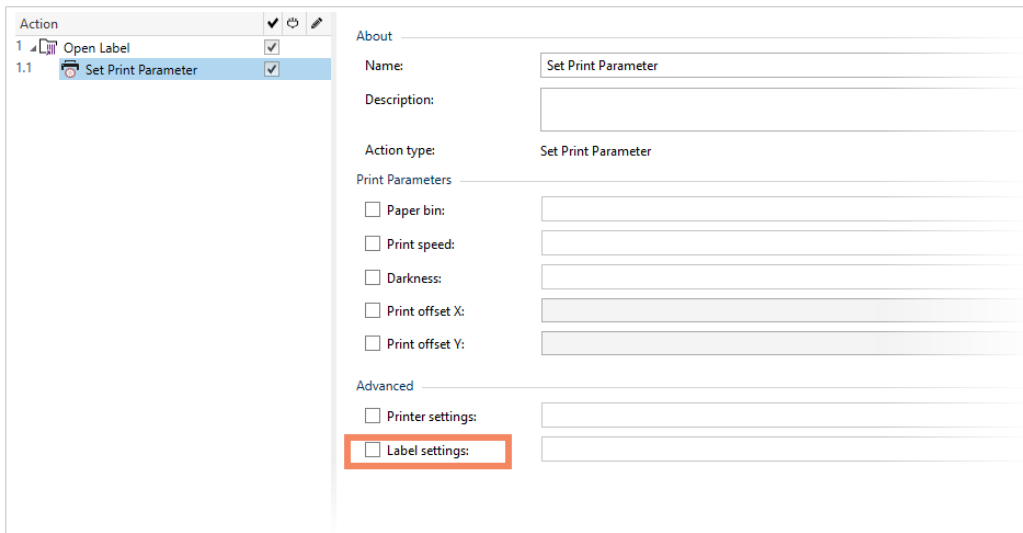
Figure 15: New option available in Set Print Parameter action

You achieve this with a new option to modify label settings in the **Set Print Parameter** action. These settings are applied at print time and are not saved in the label template. The settings are provided as an XML payload. See our user guide for details.

## 2.2.2. Support for animated GIFs

Animated GIFs contain a series of frames (pictures). When displayed, the frames provide an animated sequence that cycles over and over without stopping.

Animated GIFs are a great visual tool when you want to get a user's attention while using the PowerForms application, like:

- Showing animated progress bars to let them know the application is busy processing the last request.

- Attention to a specific surface area where they should continue the workflow.

- Animated icons to suggest where the action area is in applications.

You can use animated GIF images with Picture and Button objects in your PowerForms applications, also when you run them in the NiceLabel Web Client.

## 2.2.3. RBAC membership exposed in forms

NOTE: Product level NiceLabel LMS Pro or above is required for this feature.

When using NiceLabel LMS and Label Cloud products, you must configure the role-based access control (RBAC) in the Control Center dashboard. You must assign roles to your users (e.g. designer, QA member, operator) and therefore define access level to NiceLabel applications.

The same user roles are now visible in your custom PowerForms applications. You can see user membership in the Control Center-defined access roles and apply the allow/deny logic in your application.

When you must create an application that allows access to particular functionality to specific users but denies access to other users, you don't have to devise your own user management but can reuse the one you already use for the NiceLabel platform. For example, the administrators of NiceLabel platform will also be administrators in your custom application. You can also create a completely new set of access roles for your PowerForms applications.

There is a new internal variable **UserRoles** that contains a comma-separated list of roles that the logged-in user is a member of.

## 2.2.4. Minimizing form and minimizing to taskbar notification area

There is a new option available in form properties for minimizing the form. The ability to minimize the form is now available as a separate "Allow minimizing form" option, no longer tied to the "Allow resizing form" option.

When you enable a new option, the user can minimize the form to the taskbar. Furthermore, when you enable "Minimize to tray" option, the form will minimize to the taskbar notification area (next to the clock). The icon visibility is configured by Windows option "Select which icons appear on the taskbar".
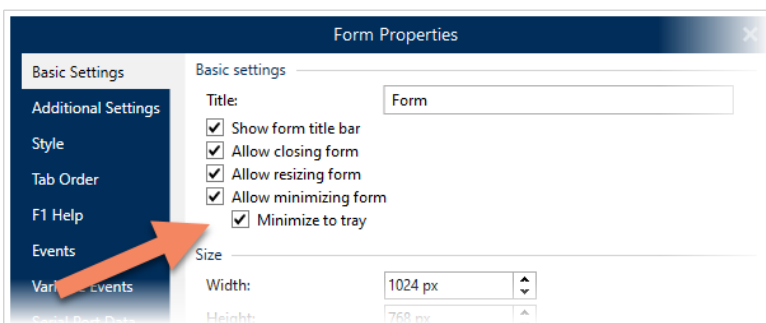


You can also use a command-line switch **startAsMinimized:true** that will force the form to start minimized. Hiding the form is useful when you use it for background tasks and do not need to show its user interface.

## 2.2.5. Uppercase/lowercase formatting option

NiceLabel includes functionality for text formatting options, such as "trim spaces", "search and replace", "delete non-printable characters", and many more.

You would use these options whenever the master data received does not conform to label data specifications so you have to adjust it. The built-in formatting options provide data formatting without a need to use scripting with VBScript or Python.
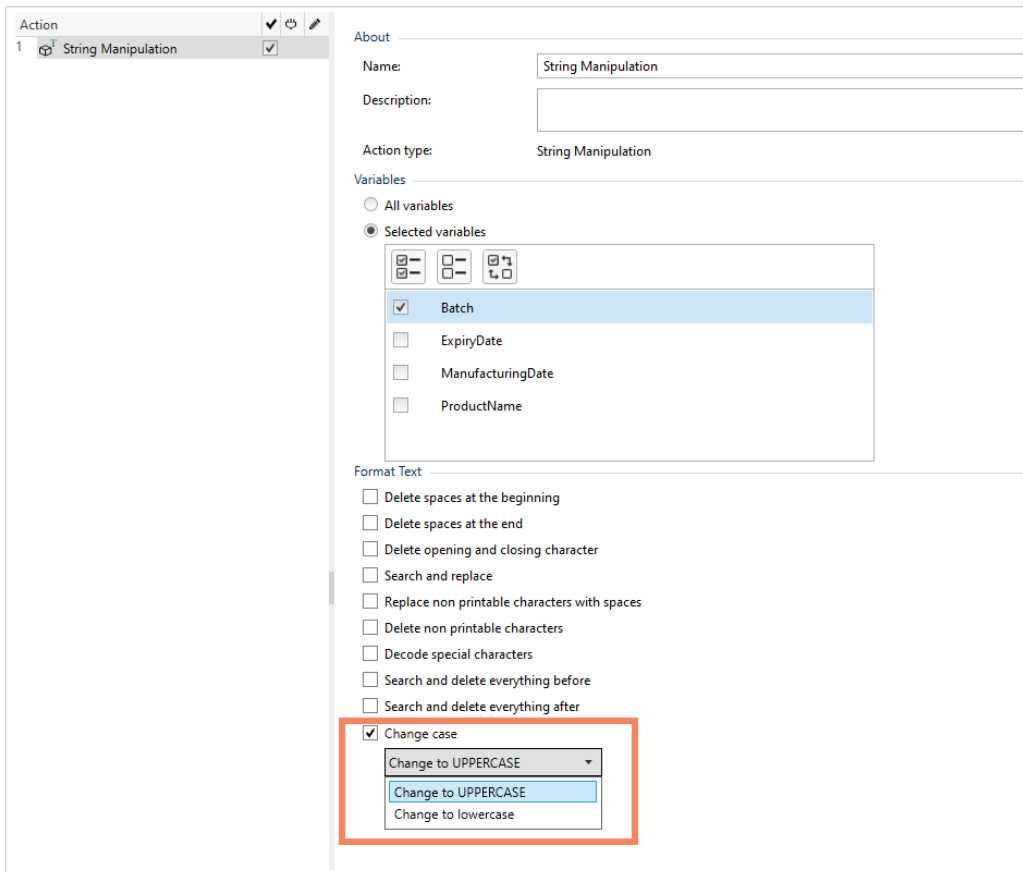
Figure 16: New Change case option available in String Manipulation action (and in Automation filters)

With this update, we expanded the functionality to convert text to UPPERCASE or lowercase.

The formatting options are available in String Manipulation action (PowerForms and Automation) and in the filter properties (Automation).

## 2.2.6. Configurable message type for Message action

You use Message actions to display informational messages in your PowerForms applications or request input from the user. The Message action is also useful when developing your PowerForms applications or Automation triggers. It will display a message on-screen (PowerForms) or in a log (Automation), helping you trace your workflow executions.

There is a new property in the Message action details to configure the message type/severity as "information", "warning", "error", "question" (PowerForms only).
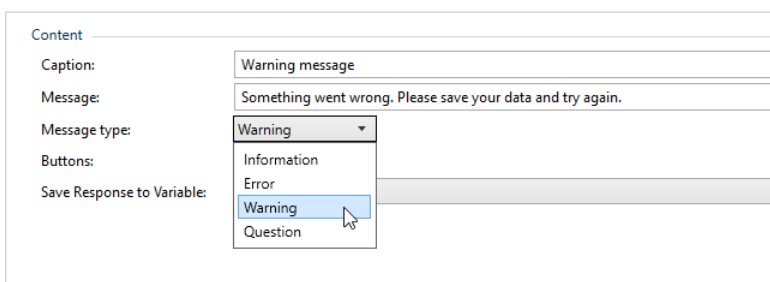
Figure 17: Configurable message type

The message type determines the icon that will display in the message box (PowerForms) or color-coding for the event in the log (Automation), e.g. error type is colored red, a warning is colored orange.

## 2.2.7. Vertically resizable text areas in actions

The text areas in **XML Transform** and **Set variable** actions where you configure actions are now vertically resizable to accommodate longer content.

# 2.3. .NET API

## 2.3.1. Support for detailed element properties

The SDK interface is extended to expose the following new objects' properties.

General properties for all supported objects:

- Description

- Status of printable/not printable setting

- Status of visibility condition

Text and text box object properties:

- Effects: inverse, mirror, RTL printing, text on ellipse

- Style: bold, italic, underline, strike-through

Text and text box and barcode object properties:

- Content mask and mask character

Barcode object properties (some properties are not available for all barcode types):

- Include quiet zones, inter-character gap, space correction

- Human readable: No, above, below

- Human readable custom font: font, size, bold, italic, auto font scaling

- Include check digit

- Type of Databar barcode

- X dimension (modulo X)

- Ratio

- Descender bars

- Number system

- Bearer bar (fixed thickness, thickness multiplier, show vertical bars)

- QR barcode - error correction level

Data source enhancements:

- CurrentDate, CurrentTime data sources

- Date/Time offset for CurrentDate and CurrentTime

## 2.3.2. Support for functions

SDK interface is extended to support Concatenate, GS1-128, and ASC functions.

When a solution contains functions, the SDK interface ILabel will return a list of functions through the property ILabel.Functions. You can read the function definition as an XML document. No updates or changes are available through the SDK interface.

## 2.3.3. Exposed print metadata

The Print method has a property "metadata" that is now exposed in the SDK. This is a piece of information that Control Center logs in the history of the print event to link the event with data printed on the label.

This property is already available for PowerForms applications and Automation configurations.

# 3. New in Label Management System

## 3.1. Document management

### 3.1.1. Automation Manager in Control Center

Large organizations often have multiple Automation servers running different Automation configurations. When production problems occur, viewing Automation logs on multiple Automation servers is inconvenient, takes time, requires remote access, and increases security risks.

Automation Manager in Control Center provides you centralized access to configurations and triggers running on Automation servers in your environment. Automation Manager in Control Center connects to Automation Service on your local computers, so you can make changes to it instantly from your cloud or on-premise Control Center.
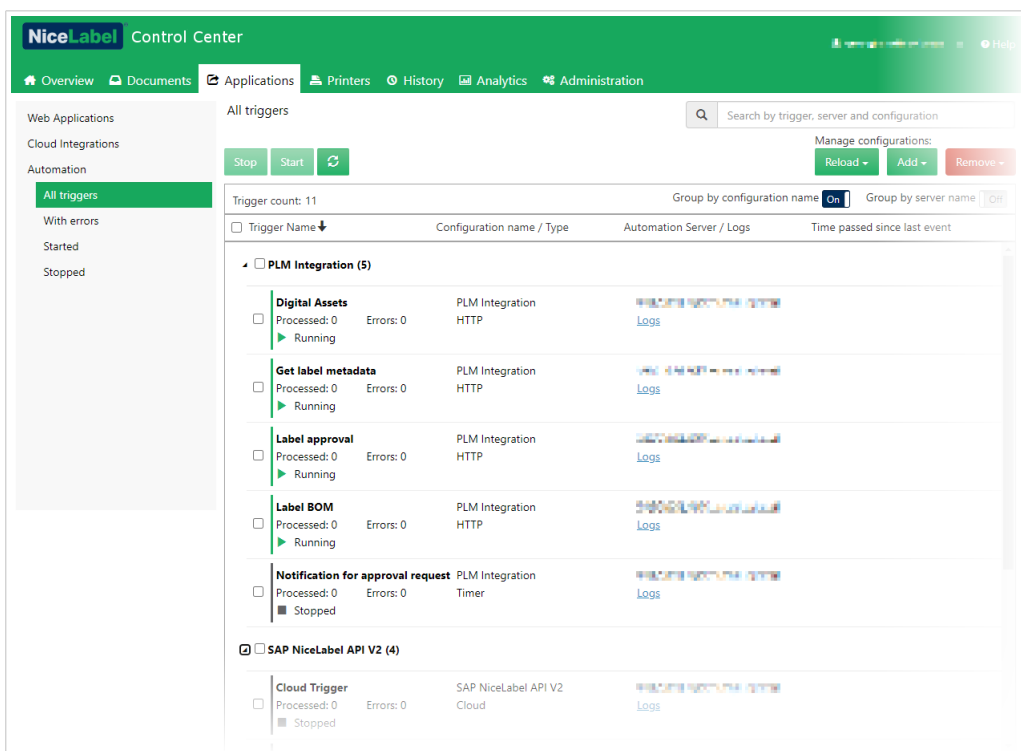


Figure 18: Functionality of the Automation Manager available in Control Center

Automation Manager in Control Center works like your local Automation Manager, but adds computer names so you can:

- Quickly locate your Automation configurations and triggers on different servers.

- View your entire fleet of Automation servers.

- Easily deploy or remove configurations to remote Automation servers.

The access to Automation Manager in Control Center is controlled through Access Roles membership.

### 3.1.2. Sign-in available with OpenID Connect authentication provider

The authentication providers verify the user's identity and credentials (password, two-factor authentication, etc.) and let NiceLabel know that the sign-in was successful. For authentication providers, NiceLabel LMS products already support Microsoft Active Directory and built-in NiceLabel user management.

With this release, NiceLabel LMS products now support the **OpenID Connect 1.0** authentication provider. The provider allows NiceLabel to authenticate users without having to own or manage passwords. OpenID Connect runs on top of OAuth 2.0.

Authentication provider caters for a way to authenticate users to NiceLabel by redirecting the user's browser to a company login page, then after successful authentication on that login page, redirecting the user's browser back to NiceLabel where they are granted access.

The new provider is configured directly in the NiceLabel NiceAN database.

### 3.1.3. Optimization in print history data logging

NiceLabel Control Center logs all print events from NiceLabel print clients. This is the greatest consumer of space on SQL servers. The more you print, the more data history Control Center must remember, so it becomes increasingly important to use storage techniques that minimize storage spending.

Two optimizations are available with the new release:

- **Bulk inserts of data.** Database operations insert data for multiple events inside the same transaction to minimize connectivity overhead and improve throughput.

- **Non-changeable values are not stored for each label in a batch.** Variables are only logged when their values change from one label to another. For example, when your print labels in a batch where some variables do not change their values in the entire batch, we only store their values once with the first label.

### 3.1.4. Smart monitoring in the Control Center

- **A warning message when trying to set delayed publishing time in the past.** When you use the workflow process to automatically publish the already approved file, the check is put in place to prevent you from defining the publishing time in the past.

- **System user "Control Center Scheduler" is used for logging of automated system events.** When using the workflow process for automated delayed publishing of already approved files, we will log

the user account attributed to the event as the system user "Control Center Scheduler" (previously "Anonymous" was used that could raise some eyebrows in the validated environments).

- **Control Center user interface shows an error if the database does not have high enough version.** A check is put in place to warn you when the version of Control Center application does not match the version of the Control Center database. This usually means you have upgraded the Control Center application, but not the SQL database.

- **Warning for Control Center SQL database getting full.** The warning is shown in Control Center user interface when Control Center SQL database is more than 90% full. The provided link will open a help topic with suggestions to resolve the warning.

- **Preventing the administrative lock out of the Control Center.** A check is put in place that prevents you from removing all users from the administrative access role. At least one user must be assigned to the administrative role.

## 3.1.5. Stored procedure to empty full database

NiceLabel LMS uses Microsoft SQL Servers to store labeling assets (contents of Document Storage) and all details about the print activity (print logs).

It is not that uncommon for customers to set up NiceLabel LMS software using the free edition of Microsoft SQL Server – Express, which is limited by the size of databases. When you neglect the importance of system monitoring, the NiceLabel database can grow to the size limit. Once this happens, NiceLabel LMS stops functioning until you free some space in the SQL database.

With this release, NiceLabel provides a stored procedure that will help you remove old print logs that you no longer need. You can define a date prior to which print logs will be cleared. You can also define the number of logs to delete in a batch.

For more technical details, see the following knowledge base article:

https://www.nicelabel.com/support/knowledge-base/article/saving-space-on-sql-databases

## 3.1.6. LDAPS support for querying Active Directory

LDAP (Lightweight Directory Application Protocol) and Secure LDAP (LDAPS) are the connection protocols used between NiceLabel and the domain controller within the infrastructure when you have **Windows Authentication** enabled. LDAP transmits communications in clear text, making it vulnerable to man-in-the-middle attacks and eavesdropping. LDAPS communication is encrypted and secure.

Microsoft issued a significant advisory against the use of insecure LDAP to Active Directory because of the potential for attacks and misuse. LDAPS should be used with Active Directory domain controllers.

A new NiceLabel configuration option enables LDAPS communication. In the case that LDAPS cannot be achieved, the fallback to LDAP is possible.

# 3.2. Analytics

## 3.2.1. Analytics includes a view on errors

When you print labels in NiceLabel, errors might occur during:

- **Processing.** Something went wrong while processing the input data and preparing a print job.

- **Printing.** Something went wrong while sending a print job to the printer.

Control Center already logged such erroneous events in the History tab along with all details that caused the problem and why the processing/printing was stopped. The same events are now exposed in the analytics and displayed graphically. This helps you monitor and analyze your label printing process giving you ways to understand what and how you print.
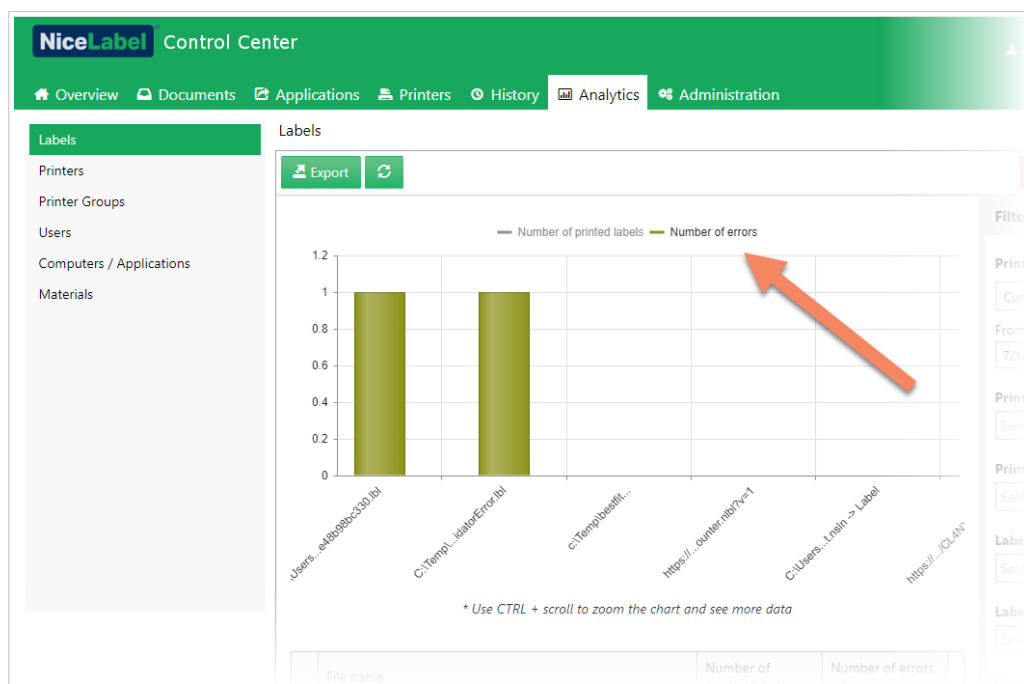


Figure 19: Switching between showing the number of printed labels and number of errors for the same filtering options

The charts allow an easy switch between "Number of printed labels" and "Number of errors" display on all analytics pages.

## 3.2.2. Ignoring print jobs with unlimited print quantity

Printing labels with unlimited quantity is usual in production environments, where you print the same label template for the entire production run. The label template might increment the counter or use the printer's datetime field – something that printer can handle internally – but no other object changes from one label to another. The label is printed until you cancel the print job.

Unlimited quantity will skew the analytics. Analytics no longer includes print jobs that were printed with unlimited print quantity.

## 3.2.3. Performance optimization for busy Automation servers

Internal data crunching processes in Analytics are optimized for cases, where you have a lot of busy Automation servers continuously sending data into Control Center database. There are less frequent messages with more concise data.

# 3.3. Web Printing

## 3.3.1. "Instant Print" - Web printing application can be assigned to a folder

You can create a web application that is not bound to a single label or solution file but instead is bound to a folder in your Document Management System.

When you run such web applications, they have the same user experience as the NiceLabel Print desktop application.

- Folder names are displayed on your left (when there is any subfolder in the selected folder).

- Available files are shown with tiles on your right. The preview shows the layout of labels and forms.

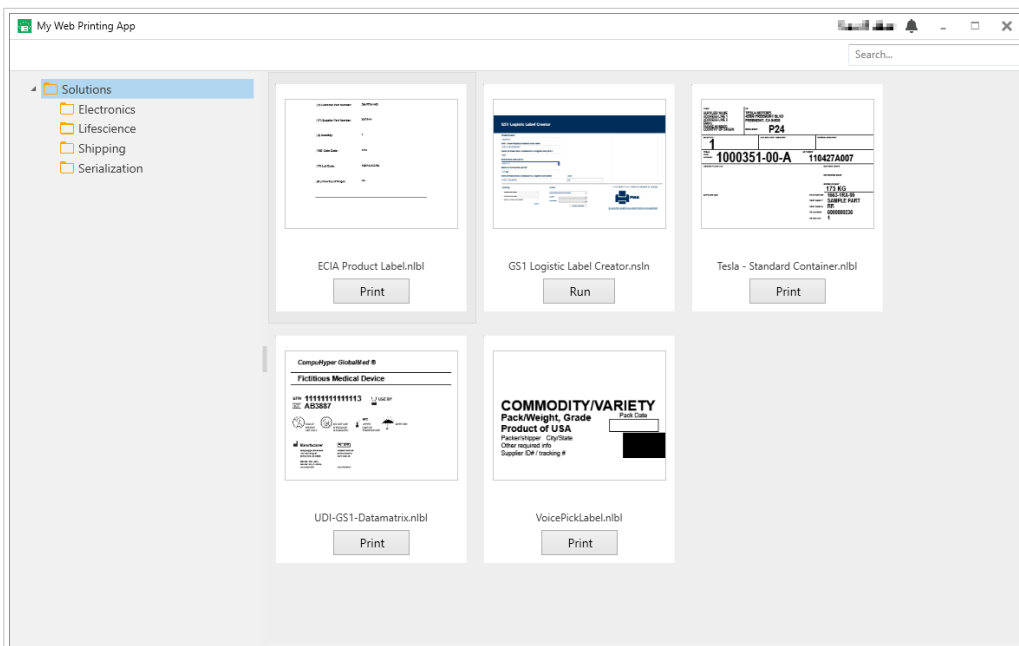- You can use search to quickly find the label or solution by its name.



Figure 20: Web Client shows thumbnails of all labels and solutions in the main and all subfolders

To add a new label or solution for your users, just save it in the published folder and you are good to go. There is no need to create another Web Application and invite all users into it. This feature simplifies the deployment of web applications.

# 3.4. Integration System (Automation)

## 3.4.1. Parallel processing of triggers

NOTE: Product level NiceLabel LMS Pro or above is required for this feature.

File, HTTP, and Cloud triggers support parallel processing. When these triggers receive multiple requests simultaneously or within a short time period, the requests are processed concurrently.

For example, when more users simultaneously send HTTP requests into Automation API or when several data files are dropped in a monitored folder, Automation processes each request (or each file) in another instance of the same trigger. All these instances run in parallel providing more overall throughput from a single Automation deployment.

Obviously, there is a hardware limit to how many concurrent instances your computer is capable of. It all comes down to the number of cores your processor(s) has. Each processor core can host one of Automation's print process.

In HTTP and Cloud triggers, parallel processing is enabled with the **Maximum number of concurrent requests** setting. In File trigger, parallel processing is enabled with the **Number of concurrent action executions** setting.

In previous versions, HTTP triggers supported multiple concurrent requests, but only when the "Wait for trigger execution to finish" option was set.

## 3.4.2. Enhanced printing queue processing

NOTE: Product level NiceLabel LMS Pro or above is required for this feature.

We implemented changes to the processing logic of print queues with the intention of minimizing printing bottlenecks. For example, when Automation is busy processing big multi-label print jobs, print jobs with a small number of labels (e.g. less than 10 labels) were not processed with FIFO flow controls, they had to wait for large requests to complete.

The new processing logic tries to print to as many different printers as possible while still respecting printing order and the maximum concurrent print processing limits. The requests for one specific printer are still processed by FIFO, the new execution prioritizes small print jobs.

### 3.4.3. JSON mime type added to built-in response types

> **NOTE**
>
> Product level NiceLabel LMS Pro or above is required for this feature.

Automation Builder includes the mime type for JSON data in the built-in list of response types in HTTP and Cloud triggers. This is a useful shortcut so you do not have to manually enter the mime type, but instead, simply select it from the predefined list.



Figure 21: JSON mime type available for quick selection