

kodit**PaperFlex**  
Make Your Labels Come Alive

## kPF for NetSuite

Version 1.0

## Revision History

**NOTE:** *The revision history cycle begins once changes or enhancements are requested after the initial version of the kPF for NetSuite Document has been completed.*

<b>Date</b>	<b>Version</b>	<b>Description</b>	<b>Author</b>
15/03/2016	1.0	Release version	Craig Story, Ian McEvoy

# Table of Contents

- [Revision History](#)
- [Table of Contents](#)
- [Introduction](#)
- [PaperFlex Template](#)
  - [How to write a kPF template?](#)
    - [kPF element](#)
    - [Line element](#)
    - [Rectangle element](#)
    - [Ellipse element](#)
    - [Text element](#)
    - [Paragraph element](#)
    - [Barcode element](#)
- [kPF Workshop](#)
  - [kPF Template Repository](#)
  - [kPF Designer](#)
  - [kPF Render](#)
    - [kPF Render Label as PDF](#)
    - [kPF Render Label as ZPL](#)
  - [Run Form feature](#)
  - [kPF Template Converter](#)
  - [kPF Utilities](#)
    - [ZPL Resizer](#)
- [kPF API](#)
  - [Templates API](#)
    - [Features](#)
  - [Designer API](#)
    - [Features](#)
  - [Render API](#)
    - [Features](#)
  - [Tools API](#)
    - [Features](#)
- [Supporting kPF](#)
- [Business Model](#)
- [NetSuite Integration Case Study](#)
  - [How kPF for NetSuite works?](#)
    - [Assign a label template to a work order.](#)
    - [Print the label of a work order.](#)

## Introduction

koditPaperFlex (kPF) is the first true cloud based label designer as a service. Browser and OS independent, as well as plugin-free, no installation or download is required. Users simply access via a secure login and start designing professional, high-quality labels.

kPF has all the features you would expect from a WYSIWYG drag and drop label template designer; shapes, text, paragraphs, images, barcodes, variable data and much more. kPF supports 1D and 2D barcodes, including GS1 formats. kPF also has more than 30 built-in fonts, Zebra on-device fonts and Unicode.

kPF stores label templates in a secure online template repository. Users can access their templates from anywhere, at anytime, and share their work with colleagues, wherever they may be and regardless of the OS platform they are working on.

Additional features such as importing and rendering existing ZPL files, resizing from one dpi to another without having to redesign and outputting in either PDF or ZPL. With kPF label design is focused on labels and not printers.

kPF Cloud is currently hosted on Fujitsu Global Cloud ISO 27001 Tier III Gold data centres which provide a pool of scalable, robust, secure and standardised, virtual IT resources, available on demand over the Internet on a cost-effective pay-per-use basis.

Fujitsu operates a global network of data centres — in Japan, Australia, United States of America, Singapore, United Kingdom and Germany. This allows kPF to take advantage of the same service on identical platforms wherever we operate around the world and allow us to scale as quickly as demand requires.

## kPF Workshop

kPF Workshop is the Web application interface where users can interact with their kPF account, which contains all the modules related to our label designer offering.

kPF Workshop delivers the world's first true multi platform cloud based label designer.

## kPF Template Repository

The template repository is the place the templates are stored. kPF has addressed needs that desktop label designers have not. It is an online repository which negates the need to send template files to each other for approval, editing or printing. Users can be on opposite sides of the world and access the same template at the same time making the process of designing and printing label templates far more efficient especially for organisations that are

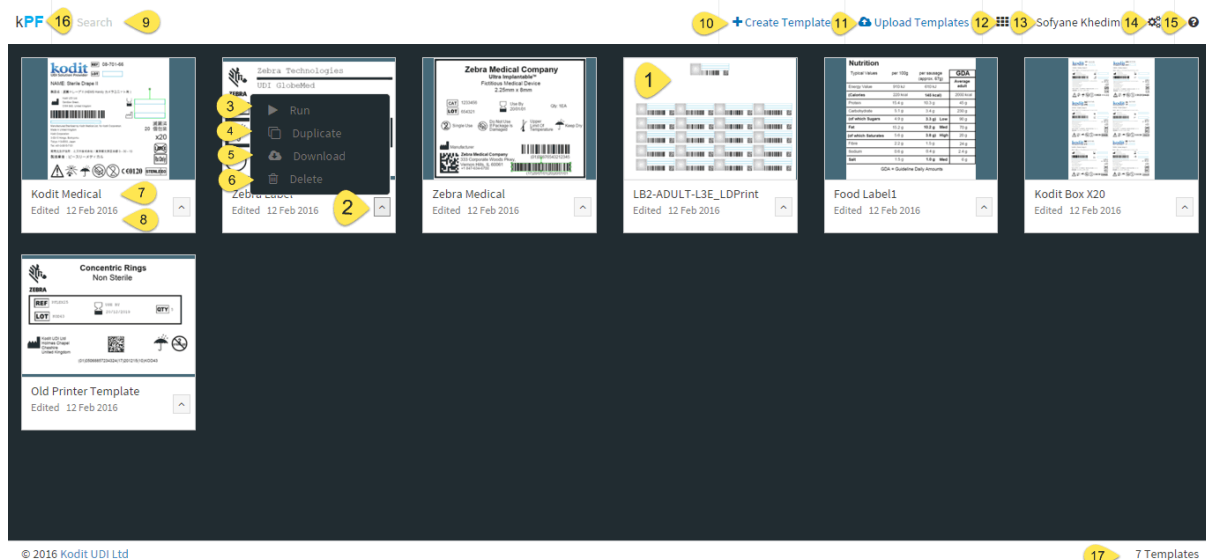
based in more than one location or which sub contract manufacture and require client collaboration on design and approval.

Rather than just listing the templates by name the repository also shows a thumbnail image of the template making it easier to search for the template you require. A search box also allows the user to filter down their search by displaying only the templates whose name or category match a series of letters added in the search box. The most recently designed or edited templates will appear at the start of the list which helps the user find their template quickly.

From the template repository users can duplicate existing templates or delete templates if they have the permissions to do so. A label can also be produced from the repository including the ability to add variable data to the label. There is also the ability to download a kPF XML file as additional backup on local computers.

In addition to working with existing kPF templates the repository is also the place where new templates can be created or existing templates in an XML or ZPL file format can be uploaded. The uploader has built in features that will check the validity of a ZPL file and give the user the ability to correct any errors such as missing dpi or missing paper height or width.

The following image is a screenshot of the template repository with its features numbered and an explanation of each feature given below.



1. Tile view of the template. Clicking on the tile opens the template.
2. Caret Icon – Clicking on the cater icon brings up a menu of choices for users with the permissions set to use them.
3. Run – Clicking on Run takes the user to the web form where they can produce a ZPL or PDF of the label. It is also the place any variable data can be added.
4. Duplicate – Allows the user to duplicate the template with a different name.
5. Download – This downloads the template as a kPF XML file.

6. Delete – Deletes the template.
7. Displays the name of the template.
8. Displays the date when the template was last edited or created if it hasn't been edited.
9. Search – Allows the user to filter the templates in the repository by name or category. Both category and name are assigned on the page properties page of the template.
10. Create New Template – This is where the user can create a new template. The user creates a template which can be printed on any printer. The name is mandatory for a template. Category and description are optional. The user can set a pre-defined paper size or use the custom option to set their own size. They can also choose whether to work in millimetres or inches.
11. Upload Template – Allows the user to upload either a ZPL file or a kPF XML file. The file can then be viewed and edited as a label template.
12. Link to the app store. Currently the only app is the ZPL resizer.
13. The name of the user logged into the system.
14. Link to the control panel. The control panel is where users can be added and permissions set for the user. Here, the user can edit their profile or their company details. The language can also be set there as can the default dpi size for ZPL exported in the Run feature. The customised items list is added here. It also contains the ZPL resizer and the API details for the system.
15. This is a link to the user guides in PDF format.
16. kPF logo. Clicking on this takes the user back to template repository from anywhere in the system.
17. The number of templates in the repository.

## kPF Designer

kPF is the world's first HTML5 WYSIWYG label designer. Its highly responsive UI makes designing a label possible on smaller or larger screen.

The toolbar next to the canvas contains all the features expected from a WYSIWYG label designer.

The tools in the toolbar can be manipulated either with the mouse or by using the property panel which shows once a tool is selected on the canvas. All tools except text items are added by left clicking on the canvas with the mouse, holding it down and dragging from left to right until the tool is as desired.

The shapes menu has lines, rectangles and ellipses which can be also become squares and circles. The line width and colour of a line can be changed and rectangles and ellipses can have their border width and colour changed. They can also have a fill colour.

The text menu contains text and paragraphs and are added by clicking on the canvas and simply writing your text. There are over 30 fonts to choose from including the Zebra fonts. If the user wants to use special characters or foreign language characters then they can set the font to Arial UnicodeMS and they'll print with both PDF and ZPL.

Images are added in two ways. The user can either add an image placeholder by drawing it on the canvas. Double clicking on the image holder allows the user to choose the image to populate it from their local computer.

The other way of adding images is to select the image tool and click on the canvas. This will bring up the 'browse' dialogue box and once an image is selected it maintains its aspect ratio.

Barcodes are added by selecting from the toolbar and drawing on the canvas. There are over 30 types of barcodes which are chosen by selecting from the 'barcode type' drop down list in the property panel. To populate a barcode double click on it and enter the value in the dialogue box.

The kPF toolbar also contains customised tools. The customised tools uses the same available primary tools with predefined properties.

Customised tools can be text and paragraph items, images or barcodes. To populate the customised tool list in the toolbar the user simply uploads a pre-defined XML file into the Options section of the control panel. There is also the ability to set the tooltip which shows when the user hovers over a tool on the canvas.

The final feature of the toolbar is the zoom function. Users can select zoom in or zoom out and click on the canvas to zoom. All aspects of the canvas can be used whilst in zoom mode. There is also a zoom to fit function for when the user has finished with zooming.

The 'Preview' function which allows the user to see how their label will look. This is useful if the label contains variable tools as the preview will show the name of the variable data field as a value.

Items on the canvas can be rotated left or right and flipped. This can be done using the mouse or the property panel. Right clicking on a tool brings up a menu to duplicate or delete the tool or send it to the front or back if it overlaps another element.

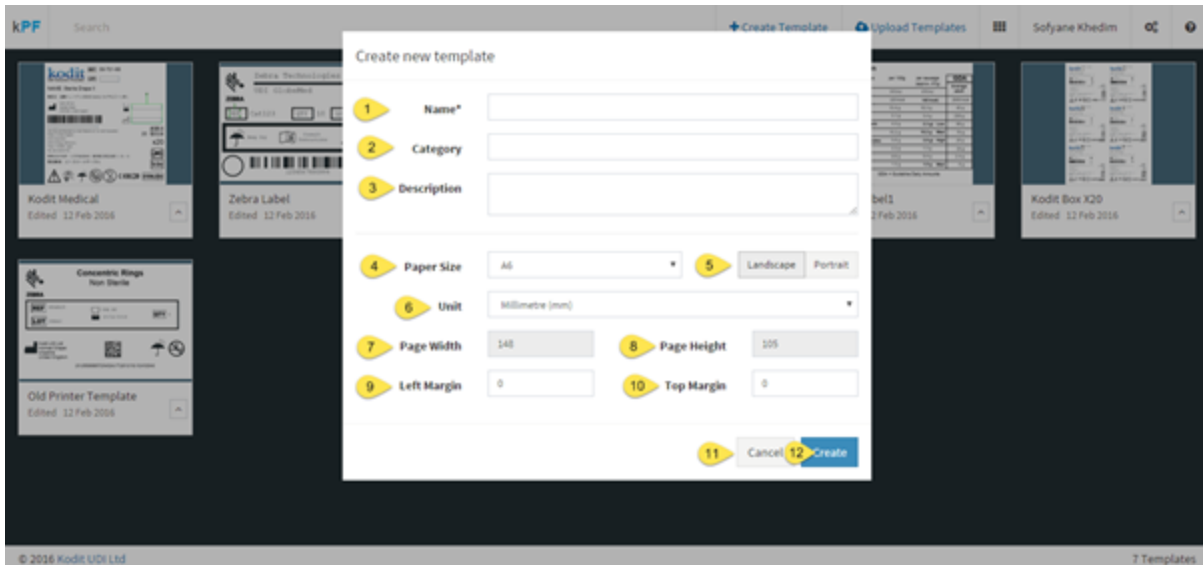
Dragging the cursor over multiple items to select them changes the right click menu to duplicate group or delete group. Once a group of tools has been duplicated they remain selected so the user can drag them in tandem to a new position on the canvas. Right clicking on an empty part of the canvas brings up the option to 'Reset Canvas' back to a blank canvas.

When a template has been designed the user has three 'Save' options. They can save and continue working, save and close the template or save as, thereby creating a new instance of the template.

If the user needs more space to work on the canvas then the property panel can be collapsed to produce a bigger work area. If the user is working on a small device such as a tablet or with a reduced browser size then the ruler around the canvas will auto adjust to fit the size of the window / device.

The image below shows the 'Create New Template' form.

### Creating a New Template

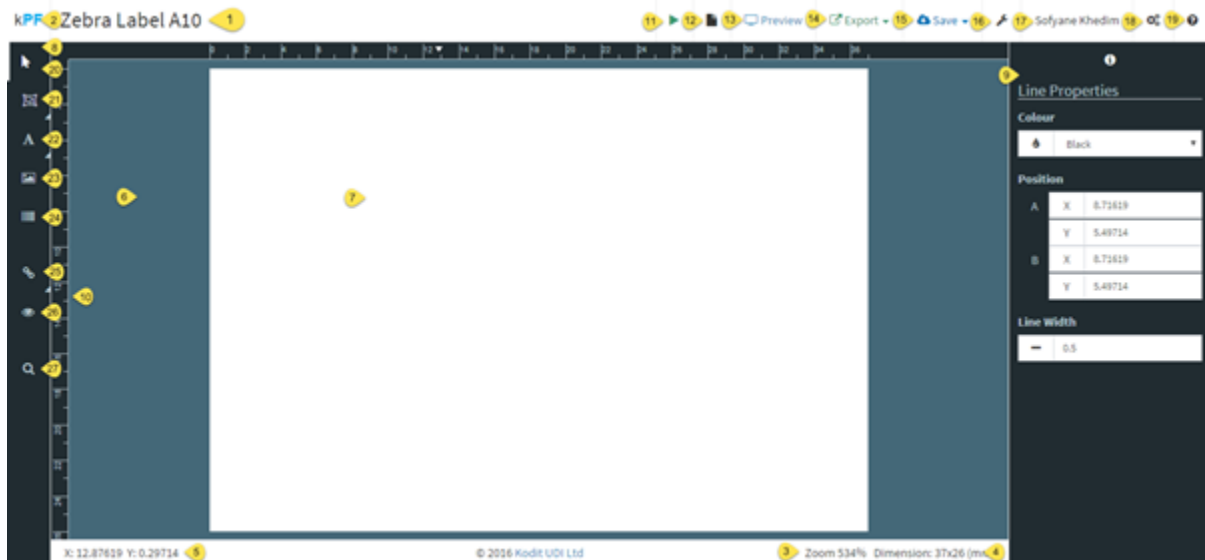


Giving the template an unique name is mandatory but the user can also assign a label to a category which can be searched on in the template repository. Users can select pre-defined paper sizes or choose the 'Custom' function and add any paper size including with decimal places. The user can also choose to work in millimetres or inches and the paper size and ruler around the canvas will reflect that choice. If the user is using pre-defined paper sizes then they can choose whether to display the canvas in either a landscape or portrait view. They can also set the printer margins for the template from here.

1. Textbox to give the template a name (mandatory).
2. Textbox to give the template a category (optional).
3. Textbox to give the template a description (optional).
4. Paper Size – Dropdown with predefined paper sizes or a custom option to enter your own width and height.
5. Landscape or Portrait – Allows the user to choose a pre-defined paper size then change the orientation of the template.
6. Unit – Choose whether to work in millimetres or inches. This will be reflected in the ruler around the canvas plus the paper size of the template.
7. Page Width – If using a pre-defined paper size this will be locked for editing. If using a custom size enter the desired width of the template.
8. Page Height – If using a pre-defined paper size this will be locked for editing. If using a custom size enter the desired height of the template.
9. Left Margin – This enables the user to shift the left margin for printing purposes.
10. Top Margin – This enables the user to shift the top margin for printing purposes.
11. Cancel – Cancels the new template and returns the user to the template repository.
12. Create – Creates the new template with the values defined above.

Once a label template has been created the user is taken to the workspace. The screenshot below shows the features of the workshop numbered with an explanation of each feature.





1. Shows the name of the template.
2. kPF logo. Clicking on this takes the user back to template repository from anywhere in the system.
3. Shows the percentage of how much the workspace is zoomed from its actual size.
4. Shows the dimension of the template.
5. Shows the exact coordinates of the current position of the cursor.
6. This is the stage around the workspace.
7. This is workspace where the label template is designed.
8. This is the toolbox where the elements are selected.
9. This is the property panel. Once an element is selected on the workspace its attributes can be edited here.
10. This is ruler around the workspace. The ruler will show in either inches or mm depending on what the user has selected in the page properties of the template. The ruler is dynamic and will resize itself if the page expands or reduces.
11. Run – Clicking on Run takes the user to the web form where they can produce a ZPL or PDF of the label. It is also the place any variable data can be added.
12. Page Properties – Allows the user to change the name of the template, change the measurement to either mm or inches or change the paper size of the canvas.
13. Preview – Shows a preview of the label. If your template contains customised items they will show as their names on the preview.
14. Export – The user can export to either ZPL or a kPF XML. If the template is exported to a ZPL file then the user is given the option to choose the dpi of the label.
15. Save – Here the user can save their template, save and close their template or save the template with a different name therefore keeping the original using the ‘Save As’ function.
16. Clicking on the spanner icon will remove the property panel from screen giving the user more space to work.
17. The name of the user logged into the system.
18. Link to the control panel. The control panel is where users can be added and permissions set for the user. Here, the user can edit their profile or their company details. The language can also be set there as can the default dpi size for ZPL.

- exported in the Run feature. The customised items list is added here too. It also contains the ZPL resizer and the API details for the system.
19. This is a link to the user guides in PDF format.
  20. Pointer – Clicking on this deselects an item that has been selected in the toolbox.
  21. Shapes menu – This contains the elements lines, rectangles and ellipses.
  22. Text menu – This contains the elements text and paragraphs.
  23. Images – Allows the user to add an image to the workspace using either a placeholder which can be a variable image at run time or a fixed image that can added whilst keeping its aspect ratio.
  24. Barcodes – Allows the user to add barcodes to the workspace. Once added the barcode can be one of 30 types of barcode.
  25. Customised Items – Customised Items have two uses. They are used to populate variable data when kPF is connected to a database or they can used to control the variable data at run time.
  26. Show Names – This shows the names of any elements on the workspace that are variable.
  27. Zoom menu – Allows the user to zoom in or out on the workspace or refit the page to size.

## kPF Render

kPF Render is responsible for generating labels from PaperFlex templates.

### kPF Render Label as PDF

From kPF Render a kPF template can produce a label in PDF format.

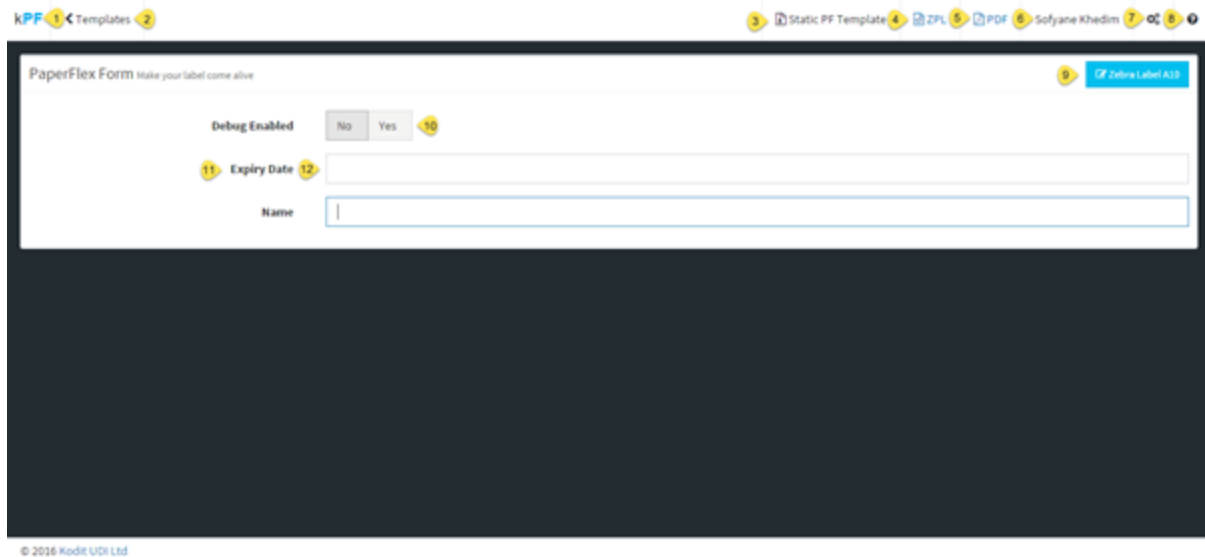
### kPF Render Label as ZPL

From kPF Render a kPF template can produce a label in ZPL format.

The 'Run' function allows the user to produce a PDF or ZPL of the template for printing. Clicking on 'Run' in the workshop or in the template repository takes the user to a web form with a PDF and ZPL option. Choosing the ZPL option will produce a ZPL file in the default dpi which is set in the control panel. There's also the ability to download the template as a kPF XML file. The ZPL or PDF produced from the web form will produce an exact match of the elements on the canvas. If customised tools have been used then the data will be variable and require populating before producing the PDF or ZPL.

The form will list all the variable data fields with a text entry box for the value. The form will also show a label of the field name next to the text entry box to define which field it is. As well as customised tools being variable, any of the tools in the toolbox, except shapes, can become variable. So, if users choose not to use customised tools they can still have variable data. To make a tool variable simply select it on the canvas and in the property panel give it a name. Any tool with a name will display as variable on the web form and the user can add their data in the text input box.

The image below shows the 'Run' form with it's features numbered and an explanation of each numbered feature below the image.



1. kPF logo. Clicking on this takes the user back to template repository from anywhere in the system.
2. Link back to template repository.
3. Downloads a kPF Xml file.
4. ZPL – Creates a ZPL file of the label.
5. PDF – Produces a PDF of the label template.
6. The name of the user logged into the system.
7. Link to the control panel. The control panel is where users can be added and permissions set for the user. Here, the user can edit their profile or their company details. The language can also be set there as can the default dpi size for ZPL exported in the Run feature. The customised items list is added here too. It also contains the ZPL resizer and the API details for the system.
8. This is a link to the user guides in PDF format.
9. A link back to the workspace of the template being run.
10. Debug – This shows the holder outline of the variable data text item. It determines if the data fields of the customised items are long enough to accept the value.
11. This is the name of the variable data field to help the user know what to populate in the text field.
12. This is the text box to write in the data of the variable field.

## kPF Template Converter

The kPF template converter allows users to upload existing ZPL files that have been created in other desktop designer tools.

The kPF template converter was created so that users with existing ZPL files do not have to start designing new templates from the beginning.

At the runtime. users importing badly formatted ZPL scripts into kPF, kPF will try to resolve the issues that prevent it for converting the ZPL to a PaperFlex template. Users get prompted to resolve the issues on screen.

## kPF Utilities

We also developed a suite of tools including the ZPL Resizer

### ZPL Resizer

#### Problem

The Issue Sending the same ZPL file to printers with different dpi settings will result in a variation of the size of the printed image. For example, sending a label designed for a 203 dpi format to a 300 dpi printer will result in the image that is 33% smaller. With a mixture of 203 and 300 DPI printers how do we easily solve this problem without designing a label specifically for each dpi setting.

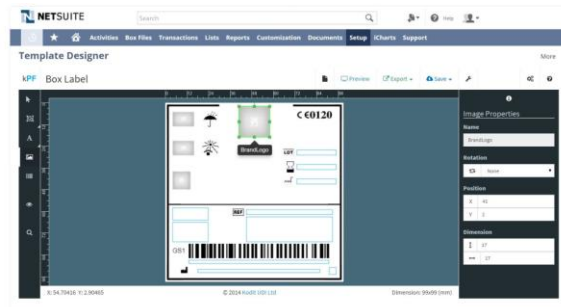
#### Solution

To solve this issue ZPL Resizer allows you to resize existing ZPL files from one DPI to another DPI. Here are the possible combinations:

Convert to (dpi)	Convert to (dpi)
150	200, 300, 600
200	150, 300, 600
300	150, 200, 600
600	150, 200, 300

## NetSuite Integration Case Study

P3 Medical Ltd has operated on the NetSuite platform since 2010 but labelling proved a difficult challenge due to the additional requirements of the medical device regulatory framework and the **lack of a native solution** within NetSuite to handle complex labelling associated with volume manufacturing. Labels were



produced by re-keying NetSuite data into a variety of off-line systems such as NiceLabel, Avery and CoreIDRAW. This led to delays and inefficiency as well as occasional errors as data was transferred manually between the various systems.

Working with kPF allowed P3 Medical to build a cloud-based series of templates which were available from within NetSuite and populated by direct reference to existing fields, whether native NetSuite or custom. Iconography, barcodes and customer-required graphics were much more easily integrated. Simple workflow triggers are used to initiate label printing from transactions such as works orders. Overall the company has seen a further step forward in eliminating unnecessary workflows and manual processes.

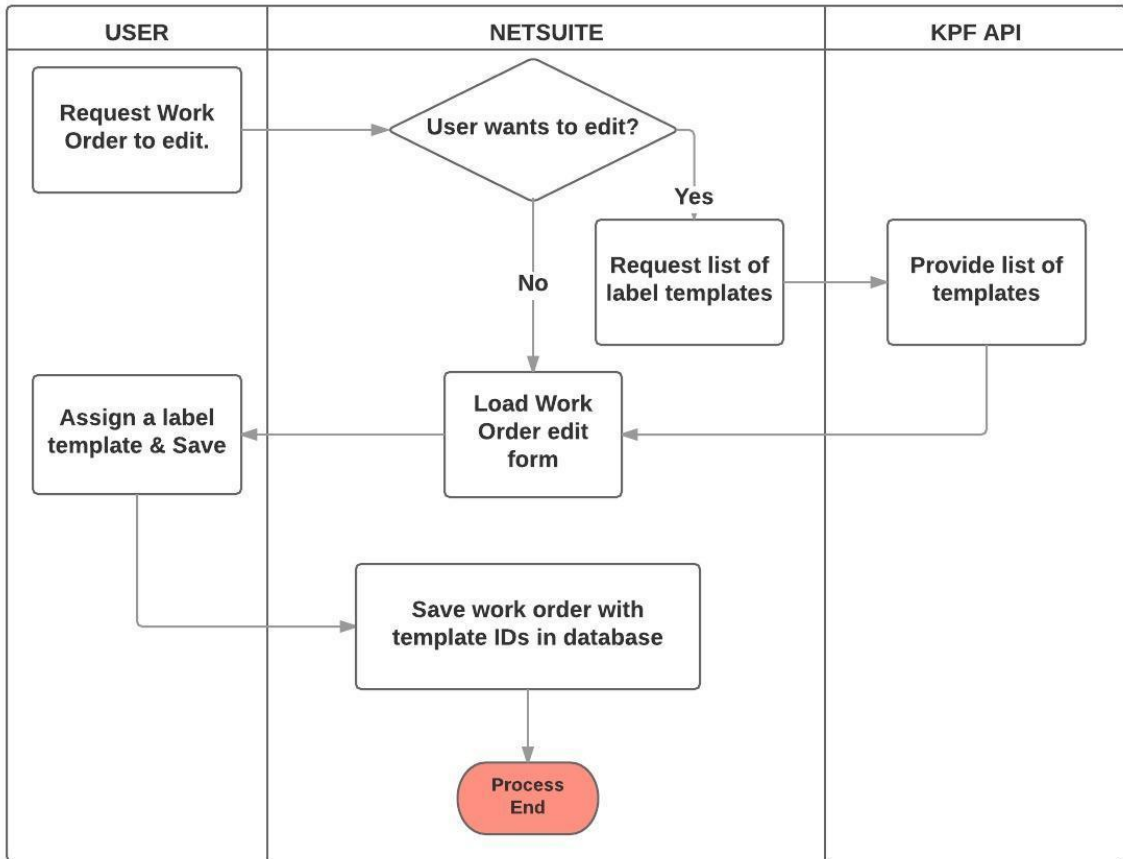
Simon Talbot Managing Director said: “Achieving labelling compliance is a key part of the regulatory framework and UDI will place an additional burden on manufacturers. Integrating labelling into our company’s core systems offers enormous advantages over adding off-line third-party solutions. Delivering the twin benefits of regulatory compliance and business process efficiency from one project is an unusual and very welcome development for our organisation”.

<http://www.NetSuite.co.uk/portal/customer-testimonials/p3medical-healthcare.shtml>

### How kPF for NetSuite works?

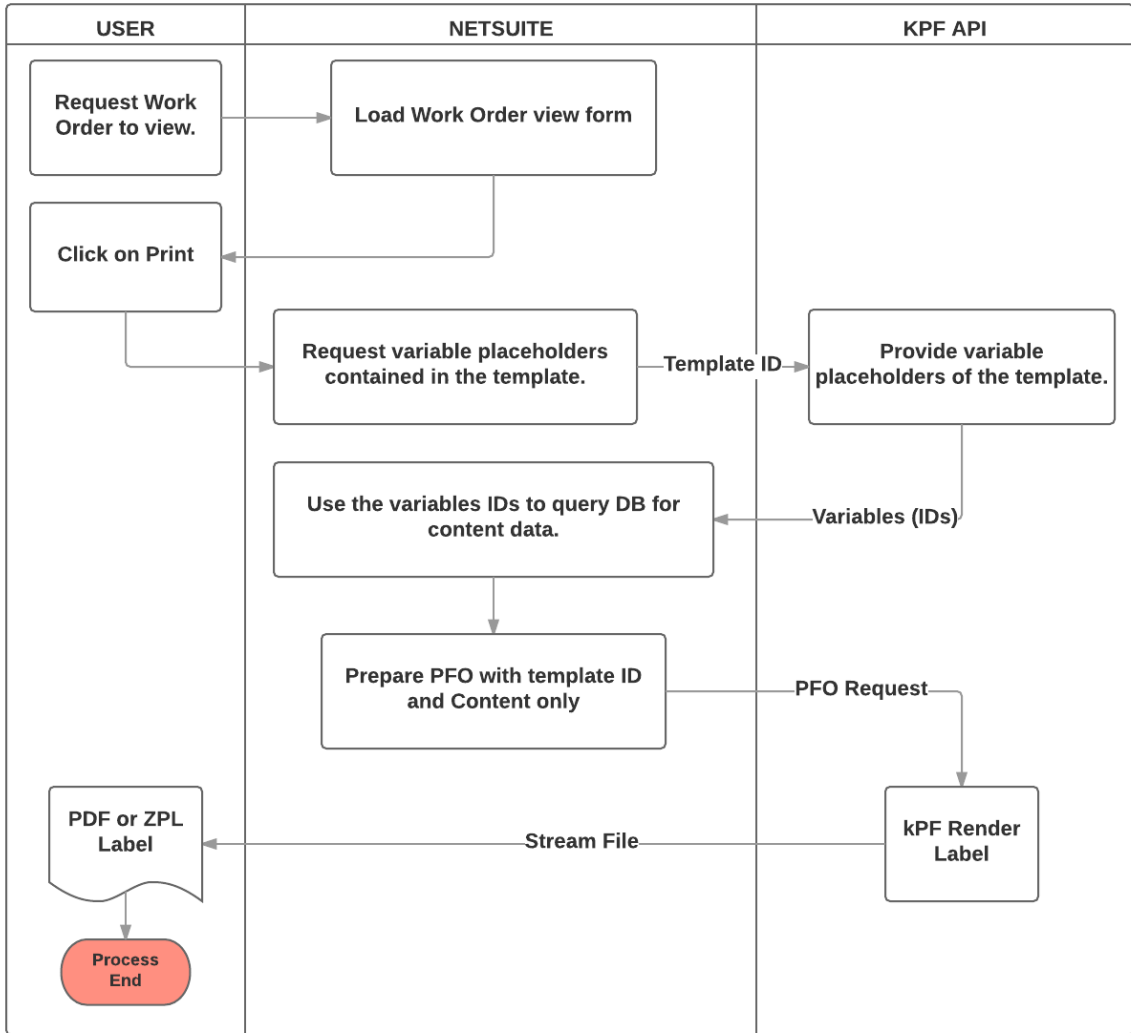
Assign a label template to a work order.

1. NetSuite requests kPF API, the list of label templates available from the kPF Template Repository and display a dropdown list to the NetSuite Work Order form.
2. User choose the templates he wants to allocate to the work order and Save.
3. NetSuite stores the template ID within the work order record.



### Print the label of a work order.

1. NetSuite retrieves the template ID from the work order record and asks kPF API to list all the variable placeholders contained in the template.
2. kPF API returns the variables of the template.
3. NetSuite queries its database to retrieve the label content information.
4. NetSuite builds a PaperFlex Order (PFO) and send it to kPF API. A PFO contains the minimum information required to render a PDF or ZPL label. It includes the template ID and the list of Data (label content information).
5. kPF API processes the request and returns the label (PDF or ZPL)
6. NetSuite can print or store the label.



### Server side

kPF is hosted on IIS web servers running on a Windows Server 2008 R2 platform, and connecting to MSSQL Database server. All communication with clients has to comply with public HTTPS, TCP/IP communication protocol standards.

### Client Side

Users will be able to access kPF only online. Clients/users are requiring using a modern web browser such as Mozilla Firefox 10, Internet Explorer 9, latest versions of Google Chrome or Safari.

## Security

Enterprise-level security, via HTTPs, certified SSL connections and Backups. The administrator for each account can create customised user roles and allocate permissions to each role, thereby securing how each user interacts with kPF.

Each user has access to the “My Account” module which allows them to reset their initial login to something more memorable.

Users could be one of three types:

- **Administrator** has all the rights.
- **Default User** – (User not having a role) can login, view label templates, search label templates, run label templates, amend its profile and change its password.
- **Customised User Role** – can do any of the following privileges:
  - View Organisation
  - Edit Organisation
  - View Application Settings
  - Access to API
  - Edit Application Settings
  - View Roles
  - Add Role
  - Edit Role
  - Delete Role
  - Duplicate Role
  - Edit Right
  - Create Template
  - Edit Template
  - Delete Template
  - Duplicate Template
  - Upload Template
  - Download Template
  - Export to ZPL
  - Export to XML
  - View Users
  - Add User



- Delete User
- Edit User
- Change Password
- Suspend/Unlock
- Reset Password

**END**