



BellHawk Data Sheet User Defined Parameters

Introduction

BellHawk has the ability to capture User Defined Parameters, such as length, width, and color on the setup screens of certain data objects, such as Items, as well as on order and transaction screens.

BellHawk makes these parameters available for purposes such as custom reports, exports to ERP systems, EDI communications with customers, and printing on barcode labels. These parameters can also appear on purchase orders, sales order acknowledgements, job travelers, pick orders and packing lists.

One of the big benefits of being able to setup user defined parameters for item configuration is the ability to use a single part number to represent items which have many different sizes, colors or other options. This is especially beneficial for make-to-order organizations, as well as distributors, who make or distribute common products in many different sizes and colors. It is also very useful for tracking the inventory of off-cuts returned from manufacturing processes.

User defined parameters are also useful in food processing where they can be used to capture data such as harvester, where harvested, and when harvested for each container of ingredients.

Background

One of the challenges we face with BellHawk is that almost all of our clients want to capture additional inventory and work-in-process data that is unique to their specific business. At the same time, we need to make sure that BellHawk, as far as possible, works “out-of-the-box” to meet the business needs of our clients. We also need to ensure that the database tables have only the needed column data, so as to maximize real-time performance.

To meet these customization requirements, in the past, we used to modify each client’s database to add additional columns to multiple tables. This made maintenance and upgrades a very significant challenge as each client’s BellHawk database was unique. It also often made the size of the database tables much larger than needed, with a resultant negative impact on real-time data collection performance.

Early in the development of the Cloud-based version of BellHawk, we introduced the ability for BellHawk to collect up to eight different parameters, depending on material-type, in transactions recording materials into inventory. We also added the capability to capture user defined reason codes, where appropriate, for activities like scrapping materials and changing their QC state.



These, however, proved inadequate to meet the needs of many clients for custom data collection.

As a result, we now:

1. Restrict the columns/fields of each table in a standard BellHawk system to just contain the data that is common to all applications, i.e. those which are needed to run BellHawk “working-out-of-the-box”.
2. Add a UDP (User Defined Parameters) column to each table, as standard. This contains all the additional parameters that the system may collect as a JSON format string (see below).

In this way, we can retain a standard format database and collect additional parameters, which are unique to each client.

The Nature of UDP Data

UDP data is of the form of name:value pairs, such as `Width:30`, `Color:Blue`, etc.

UDP data is stored in a single Varchar(MAX) column added to each table and named UDP. The UDP data is stored in industry standard JSON format, which looks like:

```
{"Width": "30", "Color": "Blue"}
```

In this way we are able to store a wide variety of user defined data within a standard BellHawk database.

UDP data is an extension to regular HLDO (High Level Data Object) data used throughout BellHawk and obeys the same data typing rules..

Setting Up and Using UDP Parameters

UDP parameters are setup using Excel imports into BellHawk through its web-browser interface. These are then stored as entries in the UDP fields of objects such as Items.

Once these UDP parameters are stored, they can be used as part of transactions that record the entry of containers of material into inventory to capture additional user defined parameter data. This data can then be used as part of reports, custom barcode labels, and exchanged with other systems, including those of upstream and downstream supply-chain partners.

For more information, please see the user manual for User Defined Parameters, available from www.BellHawk.com.