



## Mobile and RF Data Capture for IFS Applications

## Introduction

### - The Business Benefits

Cedar Bay have developed a simple to deploy, flexible, integrated data collection solution for IFS customers. It enables the use of mobile devices to update IFS real time and delivers numerous business benefits for our customers.

People often think of speed and accuracy of scanning as the only benefits of using this technology. Of the many data capture projects that we have undertaken, business cases usually include a combination of Cost Reduction, Process Improvement, and Quality improvements, as illustrated in the schematic below. By mobilising your data capture the largest business benefits are delivered by changes that can be made to processes and the ability to build in 'error proofing', quality assurance and traceability into systems.

Cedar Bay have been providing data capture solutions for many years and provide a one stop shop for the delivery of solutions for IFS.

- Our own architecture for the software solution provides the flexibility to ensure it fits most situations by configuration rather than development.
- Consultancy and process design, which are key to maximising the benefits
- Our knowledge of hardware devices, printers and infrastructure is vital to ensure the solution is practical and robust

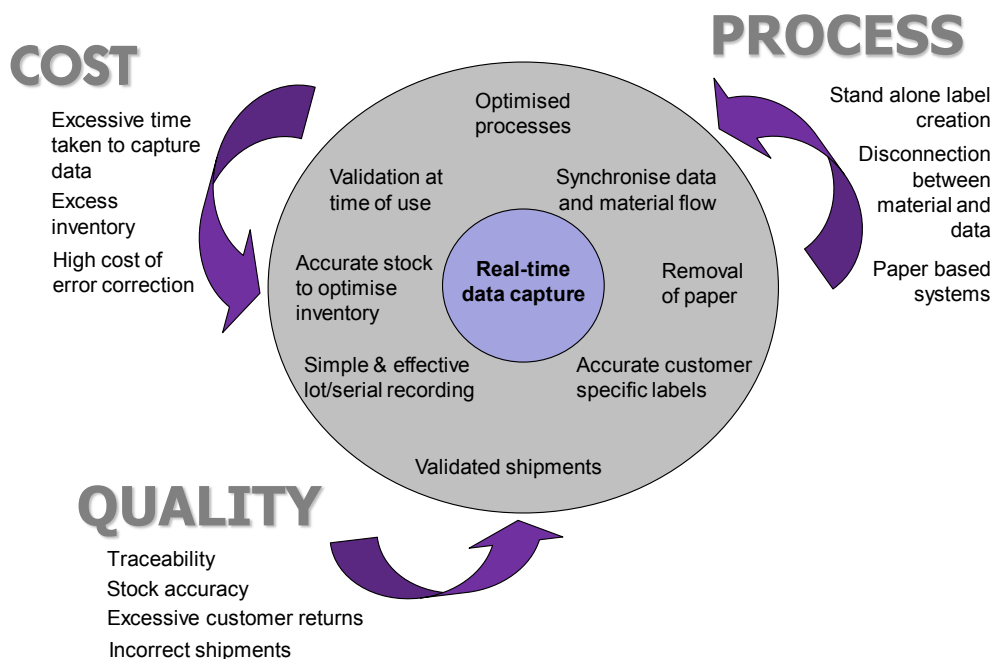
The IFS screens are dramatically simplified to enable data to be collected quickly and accurately. The software has been specifically designed to make the most of modern data capture devices so it can use features such as cameras, GPS, Bluetooth and GPRS when required. In addition to RF and Mobile devices the transactions can be deployed on touch-screen and tablet devices.

The architecture has been designed to ensure that configuration is simple and flexible. The functionality within the transactions, the language files, menus, printers and user defaults are all defined within the web based server.

Labelling is key to the effective operation of a data capture solution, and the key transactions have the label printing functionality built in. Labels can be simply modified to suit any requirements. We have experience of the key standards such as SSCC, GS1 and automotive standards such as Odette and VDA.

The solution provides business reporting to provide additional management information that is not currently available. Some data is not normally held within ERP systems such as pick rates and efficiency. The Cedar Bay architecture gives additional graphical reporting tools to make this information easily visible.

## Typical Benefit Analysis



**Automated data collection systems  
for IFS Applications**

## Goods-In,

### - Efficient Materials Recording

- Scan suppliers barcodes (including EAN-128) at point of receipt.
- Stock is immediately visible in IFS - no delay for it to be entered onto IFS.
- Produce labels for goods as part of the receipt process if required
- Single or two step arrival processing supported
- Quality Inspection tests can be prompted and recorded directly in the device. Where required, camera use is integrated to allow the recording of non conforming material
- Remove data entry errors immediately on receipt, thereby eliminating further errors



## Shipping and warehousing,

### - A Straightforward Solution:

- Locate goods real-time on handheld scanners
- Gain business efficiency by using the pick by location group and sub location on Customer Orders to shorten the pick routes in the stores.
- Select valid picklists from handheld to remove paperwork in the warehouse
- Accurately track finished goods out of the warehouse.
- Enable full traceability
- Verify shipments at the dock

## Business Reporting

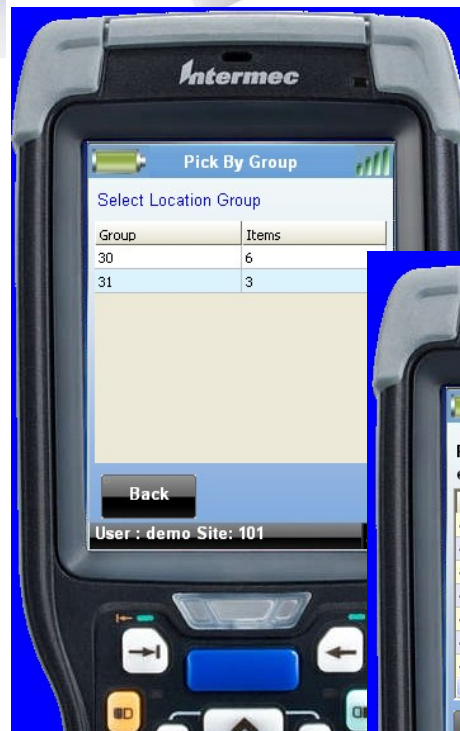
### - Giving enhanced visibility

In addition to the inventory and process visibility gains, the Cedar Bay solution delivers web based performance reporting for warehouse efficiency in areas such as pick rates or inventory counts remaining.

## Manufacturing,

### - Gaining Maximum Benefit:

- Mobile stock visibility using Stock enquiry and location enquiry screens (Example shown opposite)
- Efficiently move stock to new locations with a small number of scans, using Inventory Part Location transfers.
- Pallet move functionality built into the standard transactions to streamline stock movements
- Gain business efficiency by using the pick by location group and sub location to shorten the pick routes in the stores.
- Record material usage at point of consumption for real time information in IFS
- Record receipts and accurately label the finished goods
- Manage lot/serial controlled items simply and accurately
- Produce an accurate picture of inventory and work in progress at all stages of the manufacturing process
- Cycle Count and Full Stock Take real-time



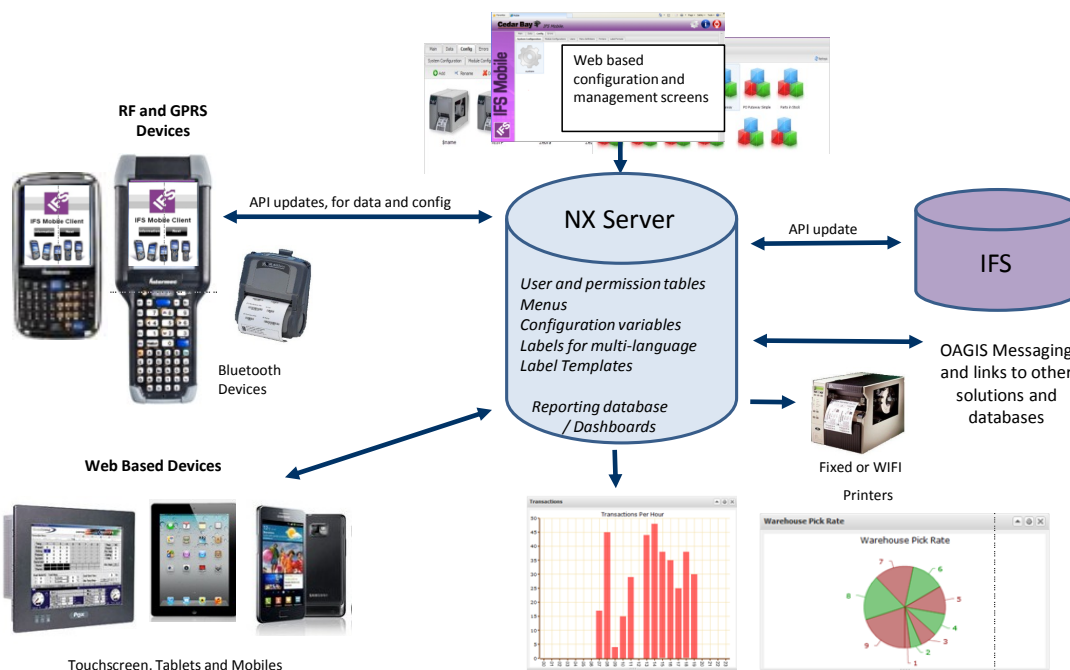
## System Architecture

### - Designed for flexibility and ease of use

The backbone to the software solution is the architecture that supports the application. To create this we have used the most up to date and supportable software components available. The optimal approach to deliver this type of solution is using web based middleware server and software on the devices in a multi-tier arrangement. Our NX Server uses PHP and Javascript, these being the most widely used web environments, (nearly three quarters of server side web applications in the world are PHP based). The management, configuration and any local reporting from the server are all web based. The server manages the calls to the IFS API's and deploys the application configurations to the devices. Because of the server architecture, linking to other external systems and databases is very simple. This allows a user transaction on the handheld to update a number of data sources, if required, which in turn can deliver some significant business improvements.

With the local software on the device we can use more powerful and flexible graphical interfaces, and optimise the use of the on board peripherals such as cameras, GPS and Bluetooth. This also fully supports batch applications as data can be stored locally on the device and synchronised back to the server, where it can be queued if the host server is unavailable. With the web server, in addition to the true Mobile/RF transactions, it is also very simple to use the same IFS API calls for web based screens,. This enables us to deliver touchscreen and tablet applications within the same architecture.

## Solution Architecture



## System Architecture

### - Mobile Management information

Using GPRS and off-line capabilities, information can be passed to more users in the organisation than ever before. As a simple example, remote workers such as service or sales personnel using Mobile devices or smartphones can read or update stock or customer order information.

## HOW CAN WE HELP YOU?:

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