

IDC Launches Low Cost, Easy-to-Implement Inventory - Stores System Offering Benefits of ZigBee Wireless Technology

IDC has launched a new Zigbee™ wireless -based solution for companies requiring a low cost inventory-stores management system. The system, provides a wireless- enabled alternative to expensive, Windows CE™ handheld terminals, which use Wi-Fi networks. Requiring only a PC for its implementation, the IDC solution comprises a ZB111 Barcode Reader, a ZB104 Ethernet wireless gateway, a hosted server, and all software. The system is scalable and extensible from simple web- based applications, to multi- functional site wide logistics operations, with options to lease or buy.

IDC's new system is based upon its flagship ZB wireless product range, and wide applications experience of providing warehouse and inventory-stores management solutions in the retail, medical and manufacturing sectors. The company provides feasibility studies to identify ROI, pilot project proof of concept, and full system roll out with ongoing support.

"Historically, handheld terminal manufacturers have tried a catch-all approach in their product design by including every imaginable feature to meet all possible applications, such as full qwerty keyboard, touchscreen, colour graphics, and Windows mobile software," said Kevin Buckley, Managing Director of IDC. "The result has been over expensive products with lots of extra features that are not required, and a multitude of buttons that are difficult to get fingers around, and are confusing for the user. This is overkill, when often the requirement is simply to scan a barcode and confirm the contents of the carton or item it is applied to. Moreover, the handhelds operate over Wi-Fi, which is designed for a high bandwidth and has relatively high power requirements. This, together with all the extra features on the device, creates a higher power demand on the battery, further increasing the cost and weight of the unit."

"IDC's approach has been to take the complexity out of the handheld unit and transfer it to the central server using a low power wireless mesh networking infrastructure."

"The result is a much lower cost device, which is lighter and easier to use. Whilst it's accepted that a handheld device such as the ZB111 has restricted capability, we have found that, for most applications, it is all that's needed; and where product validations are required, then queries can be executed at a PC."

"In addition to reducing the cost of handheld devices, we have also addressed the problem of Wi-Fi being expensive to install in warehousing and logistics systems. Wi-Fi networks usually require an RF site survey costing several thousand pounds, even for a medium size installation, before any equipment is installed. Then the access points cannot route data; so the network is not easily extendable. In contrast, our ZigBee network has a single Gateway and low cost routers, which, in addition to talking to end devices (the barcode reader), also route data to other routers and also onto the Gateway. This enables the wireless network to not only be easily extended, but also increases the robustness of the network by re-routing data in the event of a single node failure. In addition, most devices on a Wi-Fi network are IP addressable, which increases the risk of network security breaches. However, on a ZigBee network only the Gateway has an IP address."

The central device in IDC's system, the ZB111 barcode reader, is designed to interact with a central server, where most of the system intelligence is housed. For larger warehouses the barcode reader is used in conjunction with an overhead screen to provide the maximum visibility of operations. The overhead screen also offers a major advantage, in that that it is much easier to see and interact with than small LCD displays. The reading of a barcode will automatically put the details on the screen and transmit the data to the server. The server will then respond with validation of prompts on the overhead flat screen, or on the LCD of the ZB111.

"For as little as £5,000 per annum we can supply all types and sizes of organisations with maximum visibility of their operations in real time," said Kevin Buckley. "Moreover, with our leasing facility we can ensure that, as organisations grow, or their requirements change, we can evolve the inventory-stores management system in line with the new requirements, quickly, and without disruption to ongoing operations."

IDC's ZigBee Product Range for Warehousing Logistics & Sales & Inventory Systems

IDC's ZB family of ZigBee modules includes Ethernet and serial gateways, routers, micro controller and handheld devices, providing a comprehensive single source for complete wireless solutions. These range from simple cable elimination to large scale, site- wide telemetry systems in a distributed control system architecture. All of the modules offer a unique 64 bit MAC identifier, embedded intelligence, battery management and extremely low power consumption.

To support the development and integration of the product range, IDC have developed client server applications, which include the ZBServer for web services integration, "over the air" programming, data logging, and OPC connectivity for SCADA integration.
