SICK
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Unlock the Potential of Automatic Identification Solutions in an OPC Environment

Manufacturers and logistics companies are expanding the number and range of devices connected via OPC.

OPC is the set of open standards for easily interconnecting process control and industrial automation devices from diverse manufacturers operating at the plant floor level to enterprise software. Automation Identification solutions include devices such as bar code scanners, image code readers, and RFID readers. Interoperability and connectivity between these devices and software packages such as MES, SCADA, HMI, WMS, or ERP has, in many cases in the past, relied on expensive customized drivers. By using OPC enabled devices and software, companies can select the best-of-breed device for each situation without much concern about customized integration. It simplifies obtaining reliable, secure data transfer among an enterprise using systems from many different vendors.

According to Thomas Burke, President and Executive Director of the OPC Foundation, "The OPC Foundation has tracked double-digit percentage growth in the adoption of OPC technology by its members." Companies in a vast range of industries are expanding OPC enterprisewide—and using it to automate more processes and to connect more devices. Many large, medium, and small corporations have established OPC as an enterprise-wide standard for connecting devices and applications from disparate vendors. OPC has become the de facto standard across multiple industries and technology vendors.

Three Trends

Behind this expansion are three multi-industry management trends that deliver value and represent strategic directions for many organizations:
1. Get ever closer to managing everything in real time—and use it to speed processes and automate a multitude of decisions.
2. Use open standards (OPC is an open standard.)—to save resources as well as increase flexibility and maintainability.
3. Measure performance with increased accuracy and economy—and use it to improve productivity and accelerate continuous improvement.

Identify the Best ROIs among OPC Devices

Different devices and processes offer different returns on investment (ROIs) concerning OPC. Unfortunately, some of the fastest-payback, highest-ROI improvements are also the most often

overlooked. Among the most-often-unnoticed are automatic identification devices. These include bar code scanners, image code readers, and RFID readers.

Among the reasons that automatic identification devices deliver such good ROIs are the wide range of transaction and location data that they collect with accuracy and efficiency. Some of the many applications and processes that can be improved by using automatic identification in an OPC environment include:

A P P L I C A T I O N S

Receiving	Receiving goods and matching them against orders	Handling returns	Reducing errors	Document handling
Sortation	Placing goods in warehouse where they can be retrieved efficiently	Vendor compliance verification	Ensuring accuracy of order	Staging outgoing orders to customers accurately and quickly
Tracking	Putting away finished goods and tracking where they are for fast picking	Tracking work-in-process and analyzing the data for improvement	Tracking personnel for safety and security/access control	Staging an order quickly
Inventory	Requesting replenishment goods as needed	Maintaining inventory visibility and traceability across the supply chain	Managing inventory to free up working capital	Auditing inventory to improve accuracy and identify areas of loss
Shipping	Picking goods and getting them where needed faster and more accurately	Recording goods as they leave/arrive at different locations	Shipping orders to customers more reliably with less labor	Packing customer orders to ensure accurate shipping and invoicing

Avoid the Problems of Proprietary or Custom Integration

Traditionally, automatic identification scanners connect to IT systems via industry-standard wired, serial communications, such as RS-232, 422, 485, and CAN. More recently, sophisticated network architectures and protocols (including EtherNet /IP, Profinet, Profibus, and Modbus TCP) are utilized. Wireless routers are also being implemented more and more involving the open IEEE 802.11 standard.

In the past, connecting auto ID equipment to IT systems typically required expensive proprietary or customized software. In addition to increasing costs, proprietary or custom software also posed significant problems when troubleshooting and maintenance became necessary—and the staff on hand at the time had no little or no knowledge of the proprietary or custom software.

However, today companies are finding that connecting scanners to their systems using open-standard OPC satisfies all their technical requirements while avoiding costly and problematic customized drivers. There are a variety of SCADA and OPC-enabled software packages out there. Among them are Wonderware® Intellution, Steeplechase, and many others.

In the past, OPC-enabled devices connected to computers running software complying with Microsoft COM and DCOM protocols. However, the more recent versions of OPC—OPC UA (OPC United Architecture)—are multi-platform standards as well as multi-device standards. With OPC UA, scanners can communicate transactions to the vast array of business and manufacturing systems without expensive and risky proprietary or customized integrations.

Tap into the Full Benefits of OPC Scanners

Many managers and engineers have not yet considered the full range of benefits they can gain by connecting scanners to systems via OPC:

- Seamlessly connects in real time to the majority of HMI, historian, SCADA, MES, ERP, material handling equipment, and control systems for plant automation.
- Enables accessing or analyzing bar code data with minimal effort over user-friendly graphic interfaces
- Solves some challenges easily, such as configuration of match codes
- Allows standardized historical data collection for analysis and implementation of performance improvements
- Reduces the costs of integrating automatic identification into your equipment and IT systems—OPC simplifies implementation

In addition, when planning for OPC integration, consider expanding the value gained from OPC scanning by expanding the use of the data. Many companies have overlooked using scan data for some valuable productive purposes. For example, consider using OPC scanning to:

- Track the location and productivity of equipment and staff so performance can be measured and analyzed
- Analyze functions and processes for continuous improvement
- Feed data continuously and rapidly to ERP and disparate other enterprise-wide systems using OPC UA
- Monitor heartbeat and scanner health
- Time stamping for bar code
- Accurately measure performance of individuals so the company can award incentives for productivity improvements and thus improve total performance

Summary

As the growth of OPC connectivity continues at dramatic double-digit rates, companies are connecting a wider range and variety of devices to their production systems via OPC. Surprisingly, managers at many companies have not considered OPC-enabled bar code scanners—even though auto-ID devices can be one of the most profitable and broadly functional devices to connect via OPC. Managers can innovatively improve their processes with OPC connected devices delivering useful data in real time. They can also gain implementation savings and continuing improvement benefits by connecting auto-ID devices via OPC.

For more information about OPC-enabled automatic identification solutions, contact Jerry Finley, automatic identification solutions product manager at jerry.finley@sick.com or 800-325-7425. Visit our web site at www.sickusa.com.

For more information about OPC, visit www.opcfoundation.org.