

Case Study

Server Tracking

Challenge

British Columbia's Provincial Health Authority (BCPHA) outsources for assets and infrastructure management to reduce costs. Their infrastructure is spread over multiple locations, making the performance of preventative maintenance in a timely manner challenging. Maintenance documentation can lag far behind and in the event of power failure or other major event quick decisions regarding priority of server restoration must be made relying on real-time data. Security, confidentiality and compliance issues as well as keeping control of infrastructure assets required for this to be improved.

Applied RFID was approached by BCPHA with a recent incident used to demonstrate the problem. During a routine server upgrade, a contract worker accidentally switched off power to the server room. In trying to restart the servers, the IT staff could not quickly get essential services back up because they could not easily find which servers contained which applications. The 'map' of servers and applications was not current, nor was the information readily available.



Solution

Applied RFID designed a solution which attached server information physically to servers while maintaining security and confidentiality. An RFID tag, on each server kept the server tracked information. Technical staff were supplied with portable readers showing them relevant information about the server and its contents; particularly useful in a repair or emergency situation where timeliness and accuracy in information is critical. This information was integrated with current systems using a program tracking maintenance and inspections of critical components such as power units, elevators and boilers. Different security settings controlled sensitive information.

Result

The application as designed by the client, allows output to be sent to print, to the Web, or to a user application while remaining current on the tags. The central "map" is easily kept current through uploads from the reader/writer units. When servers are added or upgraded it is only a matter of minutes to upgrade the unique RFID tag information. This improves all staff productivity, while ensuring security and compliance issues. In emergency situations when critical decisions have to be made concerning which servers should receive priority attention, the quick accessibility of high integrity information from RFID technology stands out from all other solutions.



www.applied-rfid.com
info@applied-rfid.com

6272 East Boulevard, Suite 201
Vancouver, BC, Canada, V6M 3V7

About Applied RFID

Applied RFID is an RFID technology leader which designs, develops and manufactures the Proxima RF™ line of High-Frequency RFID readers and reader modules. Designed to read 13.56 MHz passive tags, either stand alone or embedded in mobile devices such as PDAs, cell phones, vending machines or point-of-sale devices, Applied RFID is enabling the next generation of near-field and proximity solutions. Proxima RF™ products are used in handheld computers, desktop readers and embedded systems for contactless usage.

Case Study

Boiler Maintenance

Challenge

The University of British Columbia's Services Department is responsible for a physical plant that encompasses more than 230,000 square meters of academic and research facilities within a 400-hectare campus – including the maintenance of all HVAC equipment. As part of \$38 million of new construction and new boiler technology is being installed for the heating system. Boiler maintenance, in particular daily routine inspections of critical equipment is required for both compliance and safety purposes.

The University desired to improve the quality of routine inspection procedures and collected data while integrating the data into a more effective reporting system for analysis. Daily inspections must be performed without any tolerance for error. Diligence by those charged with inspection duties is not in question, but human error and unintentional oversight is always a possibility. Data collection for analysis and compliance record keeping is equally critical to the safety and efficiency of management of the boiler equipment throughout the University's massive facility.



Solution

In collaboration with the University's Service Group and the contractor supplying the new boiler equipment, Applied RFID was approached to participate in a test project for attaching RFID tags to all inspection points in the new boiler heating plant. Custom software was developed by the University for integrating inspection data supplied by the manufacturer with government standard compliance procedures. Boiler technicians would be supplied with Psion Teklogix WorkAbout Pro units configured with RFID modules to read and writes to the high frequency RFID tags. The collected data can be downloaded using a cradle system with a USB port for to the UBC legacy data system.

Result

For compliance purposes alone, this solution is seen as a major improvement in both the quality and efficacy of data by ensuring all inspection points are covered. The back-end data system of the University can both capture all service data for inventory and service record-keeping but also generate future work orders for the service technicians. As a wireless network exists throughout the campus, the addition of WIFI modules is planned for the next phase.



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Forklift Service

Challenge

One of Western Canada's largest forklift service companies which provides maintenance to customers with as many as 220 machines required assistance with their preventative maintenance programs which allow the customer to plan and control their annual service costs and minimize machine down-time. A lack of operator accountability in larger operations was causing a condition of benign neglect and requiring unplanned service calls.

The forklift service company needed a system that could not only detect poor operator practice but enhance the efficiency of their service technicians during service calls. An RFID solution could connect machine and operator information together with servicing call data directly to that machine and produce reports on a range of dynamic data for both the machine owner and for technicians. These reports would give the technicians service data as well as produce a range of machine operation reports to help the customer analyze machine and operator productivity.



Solution

In collaboration with the client, Applied RFID developed an integrated solution by attaching RFID tags to each machine and a custom software application for use with the AV-X module. This allows service technicians to access machine data containing the service history of a specific machine as well as stored data such as service manuals and repair bulletins while in the field. At the end of the day the technician's service call activity is uploaded to their data system and work orders for the next day's service calls are downloaded using a cradle system via a USB port.

Result

Analysis of the collected service data is providing a wide range of benefits. Daily service call activity is uploaded and merged into their data base generating cascading reports that flow to inventory reports, time sheets and accounting data, allowing them to better manage their preventative maintenance system. Service technicians' ability to access service history has provided them with the information they need to work more efficiently. The client's customers benefit from custom reports that include machine productivity analysis, key operator information and other features that create true value added service. This project has increased technician productivity and increased the value of the clients' service to their customers. They are currently exploring the possibility of adding WWAN modules to the Workabout Pro units to allow service technicians to download data such as previous service records and service bulletins while in the field.



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Lab Sample Identification

Challenge

A major Research Institute handles many thousands of biological samples at any given time. In batch control testing situations, samples are essentially identical in appearance. Current practice for tracking and identification these samples uses an alphanumeric labeling system that involves attaching a printed label to each sample vial and matches the vial's identity to a database that elaborates on the vial's contents. This is a time consuming and tedious process requiring the handling of a sample for each update of the database. Ultra-low temperature storage of samples can impede accurate identification of samples and promotes potential of vial breakage during handling and can damage the label to the point of being unreadable. Frequent handling of a sample, increases the risk of breakage, a significant concern in instances where hazardous biological samples are involved. Applied RFID was approached by the Research Institute to improve their sample identification and data input processes.



Solution

Applied RFID Solutions was able to present a solution that involved storing sample information on RFID tags attached to vials. Using a handheld device, samples can be scanned without handling while remaining in cold storage, substantially reducing the risk of breakage and difficulty with sample identification. Laboratory technicians are supplied with the Psion Teklogix WorkAbout Pro, configured with an RFID module that reads and writes to the RFID tag. Using a cradle and USB port for connectivity, the collected data is immediately merged with the central database and records of sample manipulation are updated and available to all technicians and scientists in the facility.

Result

This RFID solution provides the Research Institute with several significant benefits that satisfy their criteria for this project. The accurate sample identification is greatly improved as is the real time documentation and updating of data concerning each manipulation of the samples during research and testing procedures. Reduction of sample vial breakage due to extra handling for identification was another benefit. This helped maintain sample integrity, but also contributed to a safer work environment. A future project is planned to use RFID to create a graphical display of all lab samples mass storage containers that would give researchers a quick visual reference of sample types and variations within controlled experiments.



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