

CASE STUDY:

AIViS using RFID to control Lighting in the Warehouse

Objectives of the project

The aim of the AIViS application was to enable Real-Time Warehouse Location Tracking to detect presence of the staff in the particular rack lighting zones and finally to switch on / off the lighting automatically. The AIViS interface to CISCO WI-FI based Wireless Location Appliance system was programmed and the ADVANTECH DIO card used to switch off the lighting in the warehouse zones.

Devices installed

CISCO Wireless

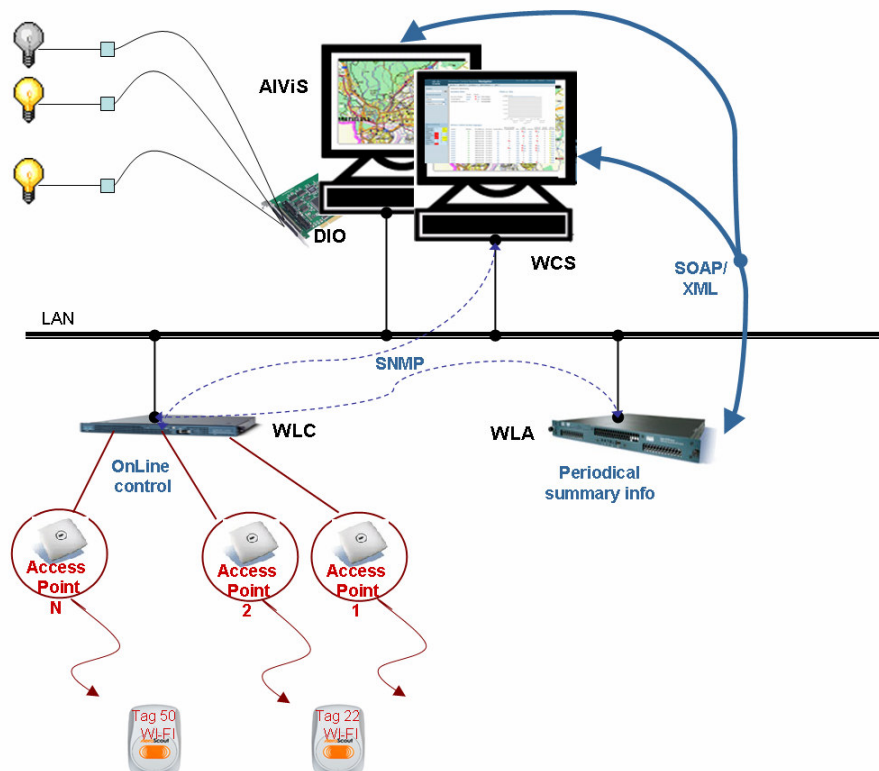
- RFID Tags "WI-FI AeroScout"
- Access points "CISCO Aironet AP series"
- Wireless LAN Controller (WLC 4.1.171.0) LAN Management for Autonomous Access Points
- Wireless Location Appliance (WLA 2.1.39.0) - includes RedHat linux, 2700 Location Appliance SW Release 2.1.39.0, collecting measurements about tags located in the selected interval (1 min.)
- Wireless Control System (WCS 4.0.96.0) - Allows IT managers to design, control, and monitor enterprise wireless networks, Windows 2003 server

Lighting Control

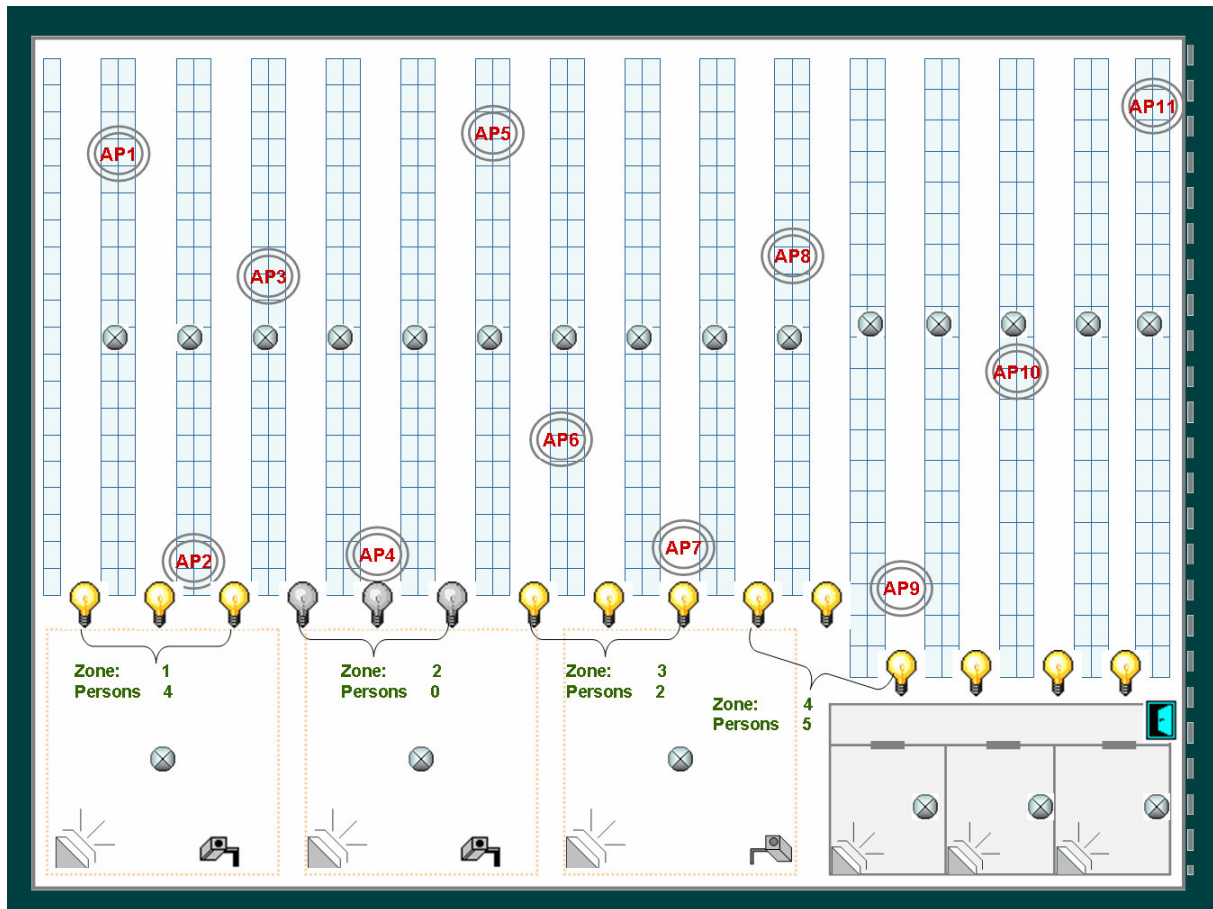
- ADVANTECH DIO PCI-1737 card

Application Software

"WLAReader.exe" program is using CISCO API "2700 Location Appliance SW Release 3.0.37.0" to cyclic reading of location information from Cisco Wireless Location Appliance (WLA). The "WLAconfiguration.xml" definition of zones in the object and "WLAtransaction.xml" are XML files used within this process. The location information is further processed by "wla.exe" AIViS DDE server program and provided to AIViS graphical software installations in the network.



Picture 1. Layout



Picture 2. Warehouse monitoring area (halfway view)

Integration parameters

- Fire alarm, Security, Access Control monitoring as basic integration concept
- Cisco Wireless - total number of Access points (27), Tags (60), Lighting Zones (6), Adjustable Period to switch off lights separately for every zone (circa 6 min.)