

Active or Passive RFID Monitoring

There are two types of monitoring; active and passive. If sensors are placed merely at the doorways (choke points), the environment is known as 'passive' tracking. When sensors (wireless access points/routers) are placed in the ceiling throughout the facility, as well as the doorways, this configuration is known as 'active' tracking.

In active mode, you could go to a computer screen and ask, "Where is John Smith?" A dot will appear on the diagram (layout) of the jail. You can also mouse over the jail diagram, and because the ceiling sensor is reading the wristband, you can see the names and pictures of everyone in that one spot --

With RFID tags worn by inmates and RFID readers deployed throughout the jail, the DCS RFID system would make unauthorized and unmonitored prisoner movement impossible.

Every inmate is issued a wristband with an RFID tag, which the IBM Power Server has generated.

With the RFID wristband, the inmate's ID number and personal information is entered into the database along with a particular profile that would then restrict him to certain parts of the jail. Additional information, such as "keep away" status from a particular inmate or inmates could also be added to the database. In that case, if the inmates came within 100 feet of each other, an alarm would be sent to the jail control room.

The RFID system ensures inmates do not escape by issuing an alarm if the bracelet approaches the jail perimeter; it reduces violence by allowing officers to monitor who is congregating with whom; and it allows for administrative functions such as tracking where an inmate is when they are needed. The RFID wristband helps the jail track information such as whether the inmate has eaten, how long he was in the library or how many hours he put in on his job.

In an 'active' environment, the RFID bracelet sends out a signal every two seconds to RFID readers deployed throughout the facility. The readers send that data to the IBM Power Server. Officers/guards wear RFID devices similar to the inmates' wristbands, but have their device attached to their belts. A red button is included with the device for officers/guards to press in an emergency. If that button is pressed, or if an inmate enters a restricted area, an alarm in the control room will alert officers there. By looking at a screen depicting the jail floor plan, guards will be able to determine, where the distressed officer or recalcitrant inmates are, and who they are.

The wristband includes several built-in tamper-proof safeguards. The braided stainless steel wire that runs the length of the bracelet will cause the RFID tag to stop transmitting

if it has been cut or stretched. The device also has a sensor that is designed to set off an alarm in 15 seconds if it loses contact to skin.

Whether it is the desire to use an active environment, or passive, all readings are stored on the IBM Power Server and can be viewed instantly with pre-formatted screens that come with the DCS system. The user is able to query the file anytime using self-defined parameters.