

# Condos Using RFID to Keep Access in Check

A Southern California condominium complex is replacing its manual gate entrance system with an automatic vehicle identification system powered by RFID.

By Mary Catherine O'Connor

May 16, 2006—MacArthur Village, a 612-unit condominium complex in Southern California, is moving from a manual gate entrance system to an RFID-based automatic vehicle identification system. The complex hopes this will alleviate abuses of parking privileges and improve security at the facility.

Under the old system, each condo unit was issued two parking decals. When a resident drove up to a resident-only lane at the main entrance, he or she stopped at the closed gate. The attendant located the decal on the car's windshield, then pressed a button to lift the gate. Under the new system, each condo unit is issued two 2.45 GHz active RFID tags. Now, when a resident arrives at the gate, an interrogator mounted at the entrance reads the tag, attached to the windshield, and passes its ID number to MacArthur's access control system. The system then checks the number against the database of residents automatically lifting the gate as long it finds the tag ID on a list of permissible entrants. If the ID number is not in the database, the gate will not open.

The MacArthur Village Homeowners Association, which oversees the running of the condominium complex, began distributing the tags to residents on Monday. The tags adhere to the inside of a car's windshield using double-sided tape, replacing the non-RFID decals residents had been previously using. IDmicro, an RFID systems provider based in Tacoma, Wash., provided the tags and readers. The tags normally have a 40-foot read range, though the company had to tune down the antennas for the MacArthur deployment, shortening the range to 25 feet to ensure that the gate would be lowered between cars.

Malcolm Mendonsa, the association's president, believes the RFID system will solve one of the major problems the condo experienced with the manual gate system. Former residents would often leave the decals on their cars after moving away, or would transfer them to friends' vehicles, allowing them to get back into the lot and use the swimming pool, tennis courts and other amenities meant only for current residents and their guests. When a resident moves out, the tag ID associated with his or her unit is now removed from the database and the system. Thus, if a former resident with an RFID tag still on his or her car—or any of that person's friends or family—try to use the tag to approach the gate, it will not allow the car entrance.

Another important benefit of the automated gate system, Mendonsa says, is that it will allow guards to focus more on the main entrance's visitors' lane, where security is a higher concern, as well as other job tasks. At the visitors' lane, a guard checks to see if a guest's name is either in the database of regular guests, or on a list of temporary visitors. Each resident is allowed to designate a short list of regular guests who can park their cars overnight, as well as a separate permanent guest list for people who may park in the complex's lot on a long-term basis. To allow any other visiting guests temporary entrance into the facility, residents must first call the entrance gate and give notice before those guests arrive.

Though Mendonsa won't say how much the association is spending on the new system, one area in which it could recoup some of its investment is through reducing the number of guards on duty. Ali Khaksar, director of business development at IDmicro, says another customer (also a gated residential community) was able to cut a staff of 40 guards down to 5 using the system. At this point, Mendonsa adds, his association has no plans to reduce its guard staff. It will first look at where it could reassign redundant guards to different duties at the complex.

To link the IDmicro interrogator and antenna system to the entrance gate's control panel, and to help establish a communication link between the IDmicro interrogator and the condo's in-house IT system, MacArthur Village hired W.C. Friend, an Orange, Calif., integration firm specializing in access control systems. In the future, Mendonsa says, the association might expand its use of RFID by installing readers at the entrances to laundry facilities, pools and tennis courts, and by providing residents with key cards to enter. He says it might also expand the vehicle tag system to include regular guests, providing tags to the people on each resident's overnight and permanent guest lists, registering them in the same database and installing readers at the guest entrance gate. Knowing the identities and comings and goings of guests could also have value to the association, he says. "Someone might come in one day, get drunk and hit some cars on the way out of the facility [or cause bodily harm to someone]," he says. In such a case, the RFID system could be used to help identify the driver.

Mendonsa says he's surprised more residential communities aren't already using the technology. "In all gated communities I've visited, none have RFID [automated vehicle identification] systems, and they have lots of guards. There is a fantastic potential for homeowner communities to deploy this same technology," he says.

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