For a recent remodel of a vacation home in Delray Beach, Florida, whole home automation had to mix with security and simple operability. Because this is a second home, keeping the house vandal-free and secure was a pressing concern. The homeowner wanted the home to appear inhabited at all times, to have the ability to remotely interact and monitor the system components from his primary residence in New Jersey, as well as to provide intuitive operation for any guests staying at the house. To incorporate all the system needs on the homeowner’s wish list successfully, integration company RoboteK entrusted RTI’s control and automation solutions to get the job done.

“The wish list of system capabilities continued to evolve throughout the project, so we really had to get creative to accomplish what the homeowner envisioned,” said Craig Simpson, owner and chief engineer at RoboteK. “We knew right away that RTI’s powerful control processors and two-way drivers would allow us to quickly program the system as changes and new additions cropped up.”

To simulate daily human activity, RoboteK selected RTI’s XP-6 control processor — supplemented with a PCM-4 port control module and IPE-4 IR port expander — enabling intelligent system control and automation that makes the home come alive. The XP-6 offers advanced control options over RS-232 and IR, and utilizes RTI’s vast library of powerful two-way drivers for seamless integration and control of third-party devices. These drivers helped the integrator narrow down and carefully select the device options to incorporate into the system, and because they’re pre-written, the integrator could easily accommodate system changes and additions without adding hours of programming to the installation.

The RTI system integrates the home’s Lutron® RadioRA2® lighting system, IC Realtime DVR-MAX504D video recorders, two Sonos® Connect units and four Sonos Connect amps, and two Nest Thermostats for intuitive control over IP. Two Yamaha RX-V677 AV receivers, two Sony BDP-S1100 Blu-ray™ players, two Apple® TVs, three Comcast RNG200 DVRs, two Samsung® 60-inch Smart TVs, one Samsung 75-inch Smart TV, one Samsung 50-inch plasma, one Comcast RNG150 set-top box (STB), and a Yamaha YAS-101 sound bar system are all controlled by routable IR. Finally, a Honeywell VISTA-128 alarm panel is controlled via serial over IP while two OPTEX HX-40 motion detectors are enabled through sense ports on the XP-6 control panel.

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Because the house layout didn’t have any room for an equipment closet, all the system components are cleverly integrated into the furniture around the home and inside wall panels. A large low-voltage wall panel includes the battery backup and power over Ethernet switch. An RTI ESC-2 feeds to the security panel just above it. All this adds to the invisible, powerful presence of the system, all working to enable the ultimate user experience.

The range of automation and simulation events is the highlight of the system. For example, the front door lights turn on when someone approaches or if someone enters the patio in the backyard. To simulate presence inside the home, the lights don’t turn on immediately. Instead they operate on a slight delay to account for the time it might take someone to get out of bed and turn on the lights. The control processor’s built-in astronomical clock triggers these tasks and the walkway lights after sunset. A primary concern was false alarms caused by the large presence of wildlife activity in the region. For that reason, the integrator chose OPTEX motion detectors, which are configured to not respond to the skittering of animals or a tree blowing in the wind. In addition, a macro is programmed at a certain time every day to turn on the 75-inch flat-panel TV and the lights inside the home in a certain sequence, as if a person was home, and then shut them off.

The homeowner can interact with the system from virtually anywhere via an iPad® running RTI’s award-winning RTiPanel app. The app offers full two-way feedback of all the system devices, a completely customizable user interface, and more. In addition, there is an iPod® on-site for houseguests, allowing them to control the system with ease. PCs in the den and in the homeowner’s New Jersey residence are programmed to run RTI’s Virtual Panel app, allowing for remote control and monitoring of the entire vacation house. One T1-B+ handheld remote provides simple and intuitive control of the home’s 60-inch Samsung Smart TV, Yamaha YAS-101 sound bar, and STB in the master bedroom, as well as the 50-inch Samsung plasma and STB located in the screened-in patio. A single button from the app or the remote puts the home in Away mode, activating all the automation behind the system.

“Helping the homeowner brainstorm new ways to program additional tasks to simulate human activity and see how deep the system could go without adding user complexity was an enticing challenge,” said Simpson. “With the power of the XP-6 control processor and two-way driver technology, we were able to do everything the client wanted to do — and more — without losing any of the simplicity. They love that they can check on the home from anywhere, so even when they’re away, they can trust the home is safe and secure. It’s just another layer of enabling the relaxing experience you want in a vacation home.”

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Craig Simpson
Owner and Chief Engineer at RoboteK