



## » Minding the security-safety gap

to do was pull the fire alarm and everything would drop, which would also precipitate an evacuation, and then generally the building would be fair game," he says. But the latest trend, particularly since 9/11, has been to add an electric strike in addition to a maglock in high-security areas within the building. Those strikes are then configured so, in an emergency situation, they remain locked and are only accessible via a master key until power is restored.

"To some this might seem excessive, but in some circumstances this type of application is warranted," says Sanford, "[such as] mantraps that are used in casinos

not control the fire alarm system from that PC. Some manufacturers claim they can provide that control. "I will tell you to pull out a ULC document that says they can, because they cannot," says Diamond.

There are situations where doors don't release or don't have the proper mechanisms to release manually, says Fred Baumgartner, president of Firepoint Technologies Inc. "Security people are geared more toward how these systems work to keep people out," he said. "For the most part they don't have the necessary background in fire safety and really don't have any qualms about locking doors to compensate for theft."

So, it becomes an issue of security versus fire safety.

"We see things such as elevator security where security will have phone systems in the elevators, but if something happens, nine times out of 10 they don't operate the way they should during a power failure," he says.

Heightening security and locking all fire doors to keep people out is not a good thing, he said. "The bottom line is these provisions are in the code because people get trapped and they

need to evacuate," he said. "We see it firsthand when we do our drills. Every building fire alarm system in this country requires testing as part of the fire code, and [this] truly has been falling short."

Testing often gets overlooked because it takes a lot of time, and property managers may not have budgeted for it. What they should be doing, he said, is take inventory of all locking devices in the building, come up with an inventory list (which is required by fire code) and make this an annual event.

While complete integration of fire alarm and security systems at a hardware device level is impractical, said Sanford, integration of various security components can aid in the detection and reporting of alarms — and can be valuable in detecting the difference between and severity of those alarms.

A relay link to a smoke detector with a relay link to a CCTV camera in the same room can automatically send an alarm to the monitoring centre, but can also send a video signal that shows the room where the alarm is going off, he says. This can give responders better information and make their response more effective — a chemical fire may require extra precautions, whereas a trash bin fire can be quickly dealt with using fairly standard equipment.

There's a need for property managers, security personnel and fire alarm monitoring companies to share information, says Sanford. If security personnel don't know there's been a fire panel power

failure, they won't be able to take the necessary actions to ensure the event is responded to properly (such as sending security staff to ensure the front doors are not breached because the maglocks have dropped).

This doesn't mean systems have to be integrated at the hardware device level to be effective — it just means the person responsible for one system must be aware of the status of other systems, or they'll be missing half the picture. "This integration can be achieved at a higher systems controller level, where the regulations of the fire alarm system do not interfere with the safe and efficient running of the security system, but provide both sets of status information about the two systems," says Chizmeshya.

There will always be a conflict between the fire code and good security practices, he says, but priority tends to fall on life safety, he added. It takes quite a bit of discussion to blend everything into an overall program-based solution that serves multiple stakeholders. "It actually comes together very nicely in the end, but getting there tends to be a lot of work, like pulling healthy teeth out of an angry dog," he says. "I'm just not sure the market's ready and I'm just not sure the overall program-based multi-disciplined sort of perspective is all that entrenched."

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between the gaming floor and the cash count rooms." If a fire alarm goes off, the maglocks may drop, but the use of electric strikes ensures that a burglar on the outside can't just trip the fire alarm and then rush into the count room — yet staff can exit without concern.

"One thing we are absolutely certain of is no fire department in North America will budge when it comes to ensuring people can evacuate easily, so the metrics and driving force in terms of the design and code requirements will always put security second," says Chizmeshya. Many people would probably agree with that. It's only those with a sensitive business — a bank data centre or FBI computer server room — that might have a different way of thinking.

"I don't know how much of it's driven by questionable standards in provinces that aren't as stringent as Ontario, but these days you have to actually have an engineer-stamped AutoCAD drawing to submit with the application for a maglock permit," he says. But any project manager will tell you, he added, that trying to schedule reliable testing with a representative from the building or fire department has become an issue and an expense.

Typically maglocks are installed by a security company, but the doors are not necessarily monitored. "Because of that, if there's an emergency, I cannot get out, and I could die in the hallway," says Howard Diamond, national sales manager for Canada with Honeywell Fire Group. When a maglock is installed, an emergency pull station should also be installed, which will release the door during an emergency situation. An alarm is then sent back to the fire panel, which drops the rest of the maglocks.

"However, on numerous occasions we've seen security people go in not realizing what they should be doing and they just stick in the maglocks and take a hike," he says. "So there's an issue there." It's now becoming more common to see maglocks installed by fire alarm companies, which means they're properly installed. But retrofit installations still cause problems, he added.

You can move up to the next level of integration, which integrates the monitoring of fire alarm, security and access control systems on one PC — but you can-

**F**ire code regulations require extra precautions with maglocks. For example, they can only be installed in buildings that have fire alarm systems, they must release during a fire alarm, they must have a means local to the door to disengage the maglock that does not require software intervention, there must be no special knowledge required to open the door from the inside, there must be no residual magnetic effect after power is dropped and there must be one overriding keyswitch accessible to lock and unlock all maglocks in the building. And, the unlocking sequence of the door has to be capable of triggering in any emergency, by anyone, even if they are blind.

But getting out of the building, unfortunately, doesn't necessarily mean that people are safe. And this leads to a whole other area of risk.

Back in the early '80s, there was a different type of terrorist. One of the strategies used by the Irish Republican Army, for example, was to put bombs in garbage cans outside of a building, hit the pull station and evacuate it — and then set the bombs off. More recently, there was the environmental contaminants scare, where people were checking mailrooms for deadly white powder.

"But the fire system or fire procedures had nothing to do with protecting people in those situations," says Chizmeshya. "If you get out of a building, you're in more trouble than if you're in one." This has been a topic of discussion around the 9/11 World Trade Centre attacks: Did the maglocks released in those towers allow for people to get to spaces that actually left them in harm's way?

It's common knowledge in most major financial cores — from Toronto to New York — that if a bomb goes off, it's the aftershock or blowback from the bomb that will spell disaster, shattering glass that will rain all over the streets. "Some of these shards are going to be five pounds of tempered glass with 14 edges," he says. "Anybody on the street in that situation is going to be Shreddies."

While some property managers are considering the installation of window film to, at the very least, hold these shards together, the cost of doing that is "outrageous," said Chizmeshya.

"The creativity of the bad guys and what the threats are really require some soul searching and forward thinking," he says. "Integration would really help that."