

Between A Rock And A Hard Place

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The cost of being locked in to an EMS vendor

I've had an iPhone for about eight years now. I was happy in the beginning, but the last few years haven't been so great. It seems the quality has been suffering; it's no longer the best of the best. The camera is sub-par, and Siri is getting worse. Overall, the phone feels sluggish, and the experience is not what it used to be. I want to make a change. But then, I remember all of the apps I bought would have to be repurchased again, this time for Android. All of my power chargers would have to be replaced. I wouldn't be able to use the iPhone-compatible alarm clock on my night stand anymore or stream a video to my Apple TV. When I realize all the time and money that would go into making the switch, I figure it just isn't worth it. I'll stick with the crappy camera, and who needs a voice assistant anyway?

This experience is called vendor lock-in. On a personal level, it can be bad, but in the business world, the costs could be much more significant.

I've noticed a risk of this occurring with energy management systems (EMS) that are built specifically for small-box retail. These tend to be proprietary systems that include networkable thermostats, lighting controllers, sensors and online software for monitoring and control. If you need to replace a thermostat, you must buy it from them, a single source. If you want to add EMS to a new store, you must do it through them as well. Some vendors even require that you use only their online cloud software to monitor, control and analyze your facilities.

Does it really have to be this way?

A Lesson from Big Buildings

Big buildings had EMS long before they were affordable to the small building market. When these first came around, they were proprietary systems too. If a controller or sensor broke, you bought the replacement from the manufacturer. If you wanted to expand, you could either buy from the same manufacturer or rip out what you have and start over. Once in, vendors had no real competition, which put them in control.

By the early 1990s, building owners and engineers caught on and knew change was needed. The solution was for nonprofits to create open data protocol standards like BACnet and LonWorks. This allowed different manufacturers' thermostats to communicate with each other and back to one central monitoring and control system. Owners were no longer restricted to having one technology in the building. Competition among vendors thrived, which led to the development of better products.

What Happened to Small Buildings?

If this system was so fair, and products so great, why didn't this open protocol stuff make its way into small buildings?

In the 90s and early 2000s, this automation equipment was still relatively expensive. The payback was there for large buildings and campuses with millions of dollars in energy costs per year, but for small buildings, it just didn't make sense.

In order to get a good return on investment, an EMS would have to be very inexpensive. New companies evolved with the intent of reducing the cost of EMS. Eliminating flexibility and interoperability of the parts and pieces was one way to reduce costs. These companies also hosted and charged a monthly fee for the central cloud platforms used for monitoring and control. This allowed them to reduce upfront costs to the customer and make up for it on the backend. They knew by keeping the hardware proprietary, and ensuring the cloud software was hosted by them, they had a business model primed for vendor lock-in.

EMS-as-a-Service

An alternative is EMS-as-a-service, which is subscription based and requires a relatively low monthly fee. With a subscription service, you'll be trading front-end costs for back-end costs. This may mean you have a one- or two-year contract, but it doesn't mean you have to suffer vendor lock-in. Your corporate-wide EMS could consist of non-proprietary parts, allowing for multiple vendors to provide and compete for your business.

Keeping it Open

There are two ways in which you can keep your EMS open to multiple vendors, at the store level and at the cloud level.

At the store level, the parts and pieces should be integrated using open protocols like BACnet or the rapidly emerging Project-Haystack standard. This will allow you to replace parts like a thermostat or lighting controller from a different vendor with similar specifications. Additionally, each store should contain an Internet of Things (IoT) gateway or hub that manages the data. This gateway should also use open protocols to communicate to the central cloud data and control software.

To remain open at the cloud level, your IT team needs to own and host the software responsible for data aggregation and control of your EMS and IoT devices. The software should be an open platform that allows for integration into a limitless number of equipment and protocols. It should also allow other companies to use the data or control to provide their value add—at your discretion, of course. These third-party services could use the data for energy analytics, integration into a work-order system or other IoT products and services of the future.

The IoT Kitchen

For restaurants, the next logical step for EMS is the addition of IoT-enabled kitchen equipment. Integrating with kitchen equipment will allow for advanced energy-control sequences and a cohesive equipment fault-detection solution. Further into the future, restaurants will benefit from a fully orchestrated kitchen, from point-of-sale to prep, improving food and beverage production and delivery. Is your operation willing to forfeit the data and control of this equipment and transactions to the EMS vendor? What implications are there for your industry secrets?

EMS and IoT companies are banking big on keeping this position because they know the value of the lock-in. So what is that value, exactly?

Fortunately there's an easy way to find out. Ask your EMS vendor if you can own and host the central cloud platform outright. If it's possible, expect the tradeoff to be up-front, instead of back-end, costs. This might be a two- to three-year return on investment. If it's not possible, this should be a red flag. They value the vendor lock-in very dearly!

Demand Open

Regret over vendor lock-in can be slow but sure. On a personal level, it's inconvenient, but the cost to your business can be much worse.

Big building systems have established a fair ecosystem that keeps building owners in control, but small building EMS have a way to go. What once was a legitimate reason to have isolated, proprietary systems has run its course. It's time to demand openness and interoperability within your buildings and portfolio, giving you the freedom and competitive environment needed to stay in control of your facilities now and in the future.

Ian Habermann, President of Active Facility Monitoring (AFM), works to bring a fresh approach to building automation in restaurants by placing an emphasis on facility uptime and quality control over energy savings. With nearly a decade of experience with IoT initiatives in kitchens, he seeks not only to network kitchen and building equipment but to create valuable applications from the data they provide.