



IFMATM **Boston Chapter**
International Facility Management Association

The Internet of Things & The Workplace

Why FMs and IT Departments Must Collaborate (& Tips for Making It Happen)



An IFMA Boston White Paper

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What Is the Internet of Things?

Do you wear a Fitbit or an Apple Watch? Can your fridge “tell” you when it needs a filter changed? Have you ever turned on the lights in your home using your phone when you’re miles away? Do you have cameras inside your entryway so you can see when the kids come home from school, or sensors that automatically light up the cobblestone path for guests who arrive after dark? Does Alexa know your favorite musical playlist—and make appropriate recommendations based on what you like?

If you answered yes to any of these, then you’re already familiar with the Internet of Things (IoT), even if you’re not familiar with the label. And yes, “the IoT” might sound like jargon or a trendy acronym, but the reality is we’re living it every day.

At its simplest, the Internet of Things is all about connected devices and the data derived from those connections. Apps on our phones can tell us whether we locked our car doors or left the lights on in the basement. Our homes are becoming increasingly smarter as more systems seamlessly integrate to create better experiences: The thermostat pings a cozy 72 degrees thirty minutes before your alarm goes off. Your bedroom’s electronic shades open with the sun. And the coffee maker knows when to have your java ready.

These devices and systems can even tell us when they’re getting sick. In fact, predictive analytics are one of the IoT’s biggest selling points, since they empower us to address potential problems before they turn into catastrophic and costly failures.

The IoT doesn’t just affect us on the home front, either. The Internet of Things is present in all aspects of our lives, including the buildings we manage. While it’s easy to think the IoT is mostly consumer-driven, it also plays a role in business—a big one, in fact. [According to research from Gartner](#), business IoT spending will represent 57% of overall IoT spending this year. In terms of hardware spending, we’re talking \$964 billion.

So for FMs who aren’t as familiar with the IoT, we guarantee you’ll be hearing more and more about the Internet of Things and Building Internet of Things (BIoT) in the coming months and years.

FUN FACT

“By 2020, more than 65% of enterprises (up from 30% today) will adopt IoT products.”

Source: [Leading the IoT – Gartner Insights on How to Lead in a Connected World](#)

The IoT: Changing the Way FMs Work

As [this article from FacilitiesNet notes](#), the Internet of Things and Building Internet of Things are changing the game for FMs: “The Building Internet of Things is producing a multitude of new choices. There are cloud-based analytics, lighting systems involved in temperature control, new options for managed services, and software that sits on top of legacy systems to offer new levels of monitoring and control.”

Not only that, but you’re going to encounter more and more clients who are going to demand better technology and smarter buildings (e.g., “I can unlock my front door at home with my phone; why can’t I get into my office building with the same phone?”).

The good news? If you learn to embrace the IoT and all its many nuances, your organization will reap solid benefits, such as reduced energy costs and better overall experiences for occupants. And if you don’t embrace the IoT, thinking there’s still time before you need to get on board, well—think again.

ENTOUCH, which offers smart building solutions, notes [in this blog post](#) that “Buildings and other structures, such as HVAC and lighting systems, are the fifth-largest generators of data connected to the Internet of Things (IoT) in facilities management. Meanwhile, up to 60 percent of facilities managers expect the IoT to impact operations within the next year profoundly.”

But as with any new technology (or new technology “era,” of which the IoT certainly is), you’ll need to adjust the way you work and think, especially when it comes to engaging with your cohorts in the IT department.

As IFMA’s [FMI magazine notes in an IoT cover story](#) from 2016, “IT increasingly will play a more fundamental role in the lives and work of real estate and FM professionals as smart systems become available and proliferate.”

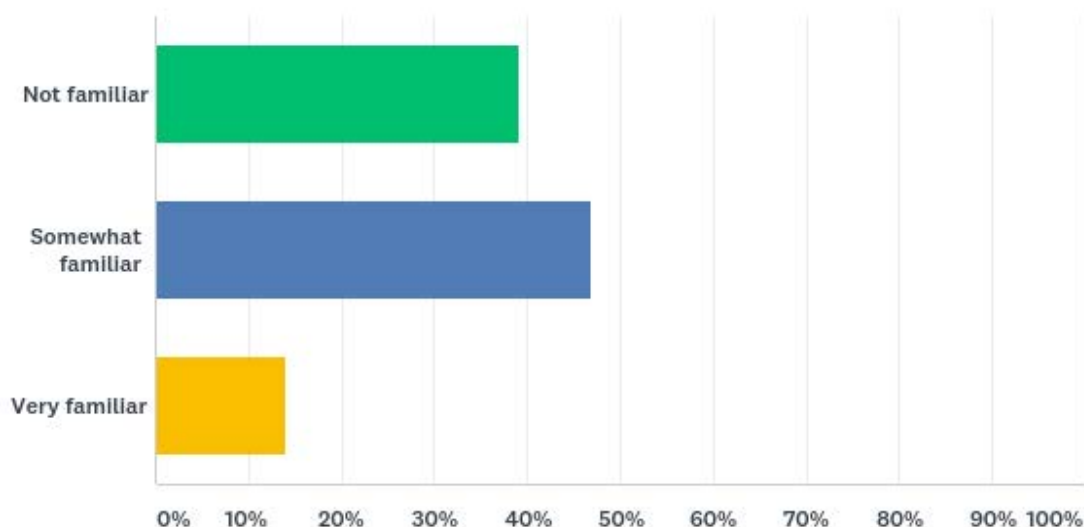
In other words, FMs need to understand the Internet of Things and how to work effectively with IT.

This guide will help you do exactly that.

We Asked, You Answered

In October, we sent out a survey to IFMA Boston members regarding the IoT. We’ll share some of the findings throughout this guide.

Q1 How familiar are you with the Internet of Things (IoT)?



Getting Psyched for the IoT

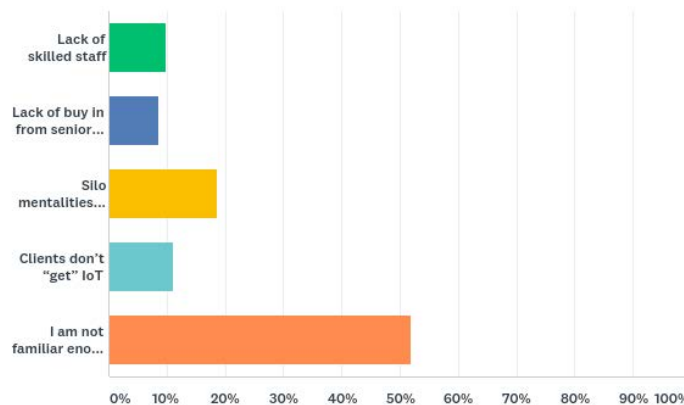
Look beyond the jargon, the odd acronym, and even all the things you and your team will have to do to make this work. Instead, focus on the potential results and benefits, specifically what all these interconnected devices can offer you: more power, more control, and more ways to keep a facility safe, secure, and comfortable.

While FMs have always been in the preventive maintenance business, the intelligence that these connected devices offers is truly a game changer. For example, instead of getting an alarm about a catastrophic systems failure, you'll receive data ahead of time suggesting a trending weakness in a particular system. Suddenly, your response can be proactive (i.e., address the weakness before it results in a systems failure) rather than reactive.

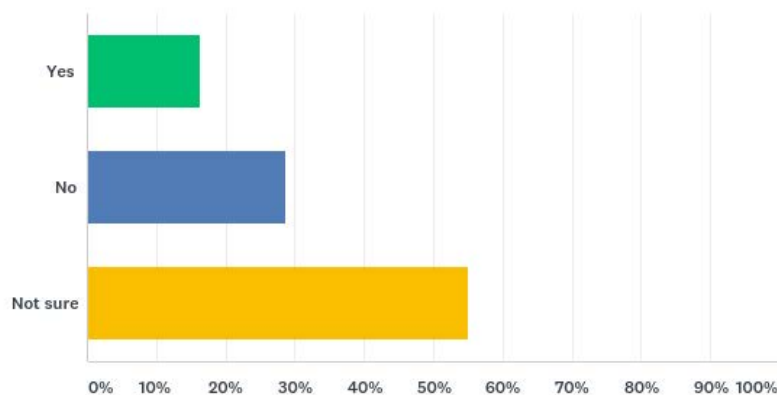
And the IoT isn't just about prevention, either. The ongoing data the devices generate can tell you everything from people's temperature preferences, floor by floor; conference rooms with the most traffic; the most popular weekend hours for getting extra work done; and many, many other data points too numerous to mention here. With access to such insightful, real-time data, you can make better, smarter decisions for your facility and its occupants (e.g., if most people avoid the building on Sundays, you can program cooler temps, thus saving energy and money).

The IoT can also help streamline processes. For example, think of buildings with relay-based lighting control panels. If you want to make a change, you might need to take a laptop, use a special wire to plug it into a specific electrical panel in the actual facility, make a change, and then move on. The Internet of Things aims to change that by connecting everything in the cloud, having the systems talk to each, and allowing you to make changes remotely, from your phone, in an airplane.

Q3 What challenges, if any, do you currently face when it comes to IoT?



Q2 Will you be investing in IoT strategies/initiatives in 2018?



Why FMs and IT Need to Work Together on the Internet of Things

Overlap already exists.

The Internet of Things has already resulted in a lot of overlap between FMs and IT. Here's a quick list of systems that require input from both sides:

- Conference rooms (A/V, lighting, smartboards, monitors, room booking software)
- Lighting (PoE lighting)
- Security systems (IP cameras, card access, etc.)
- Building automation systems/HVAC controls (IP-enabled thermostats, VAV boxes)
- Phone systems (conference calls, video conferencing, VOIP)
- "Consumer" sensors (smart fridges, appliances, etc.)
- Digital signage

As [this article from HPAC Engineering](#) notes, IT plays a central role when it comes to the IoT: "One of the most important stakeholders in an intelligent building is the IT department because, unlike in the past when a BAS operated on its own network, intelligent buildings must rely on their IT backbones. Coordination and trust between the integrator, facility-operations personnel, and IT staff from Day One is critical. By working together, all parties can agree on standards for incorporating the IoT platform into the overall IT infrastructure."

Security issues require bridging the FM-IT gap.

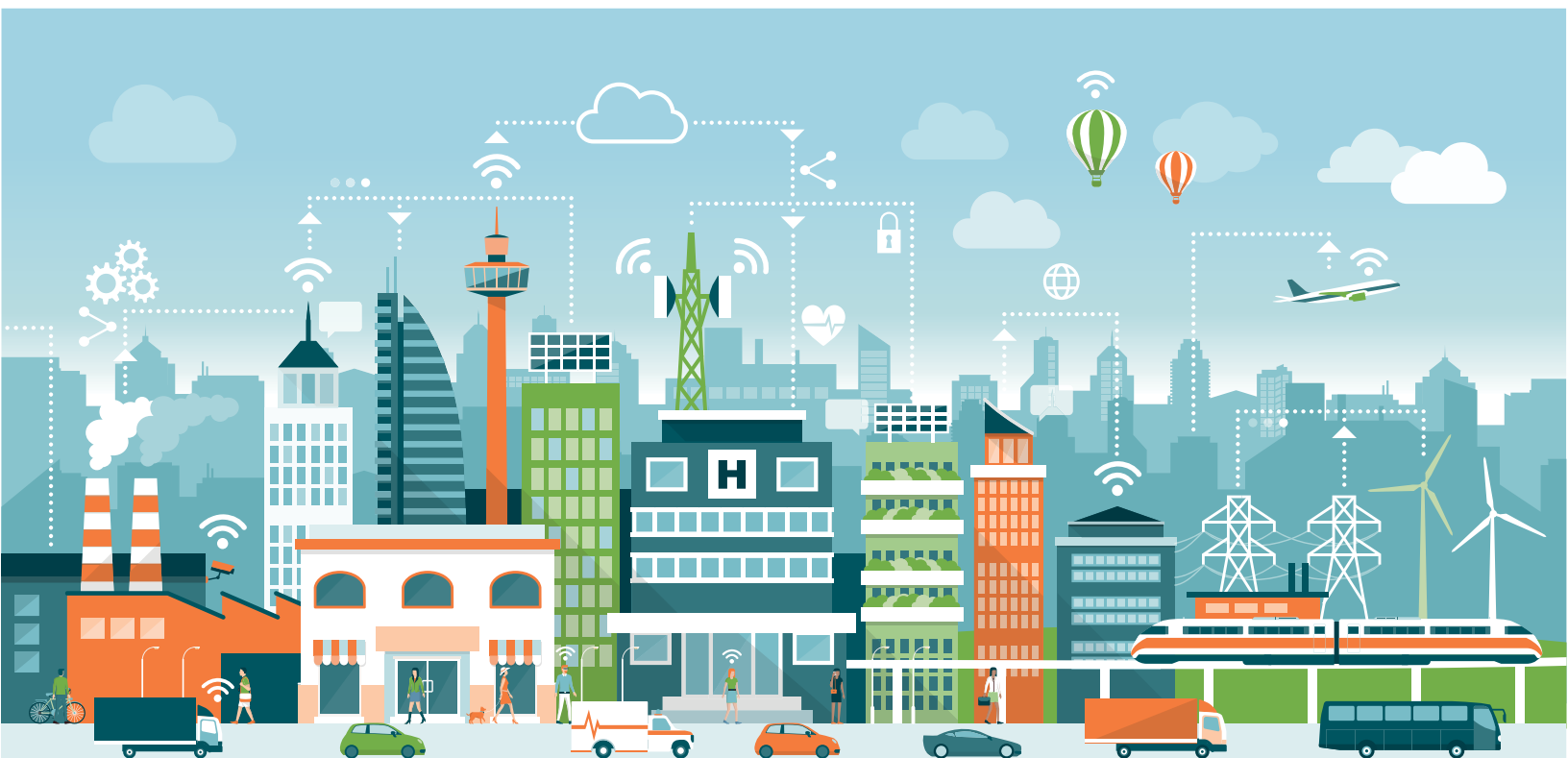
We've all heard news stories about security breaches and hacked data. Security vulnerabilities resulting from connected devices is probably the biggest drawback to the IoT, which is why consulting IT is essential.

Manak Ahluwalia is the CEO of Waltham-based Aqueduct Technologies, one of the fastest-growing technology solutions providers in the United States. Ahluwalia warns that even if FMs think the products they're using have nothing to do with the IoT, they should think again.

He says, "I've seen very rare circumstances now where they buy something that isn't gathering information or has the ability to transfer that information. I think there ends up becoming networking and security requirements that they want to take into account as they bring these types of devices online."

He notes that different levels of products will produce different types of data. Basic products, for example, might provide low-level information—what's the room temperature, is the floor wet? You might have the ability to turn something off or on based on this data, but that's about it.

But powerful products can produce much deeper intel: When did somebody walk in? When did somebody walk out? How long have the lights been on? When should we turn on the air conditioner? For the occupant who's currently in the room, what is his or her specific preference regarding temperature?



FUN FACT

“By 2020, more than 25% of identified attacks in enterprises will involve the IoT, although the IoT will account for less than 10% of IT security budgets.”

Source: [Leading the IoT – Gartner Insights on How to Lead in a Connected World](#)

Ahluwalia notes that those powerful products tend to run on something that’s more sophisticated—they essentially have mini computers inside of them. And we all know how much hackers like to go after computers.

The solution, of course, is to keep IT involved when you want to bring something new onto the network. Ahluwalia says, “I think it definitely garners a conversation with IT to identify if it can be done in a secure manner and if IT can take on any responsibility that potentially manages those types of devices.”

Vendors are talking to both FM’s and IT.

Vendors specializing in IoT solutions are also discovering that they, too, need to adjust the way they sell, since getting FM’s and IT departments on the same page is critical to a product’s ultimate success.

Siemens describes itself as “one of the world’s largest producers of energy-efficient, resource-saving technologies”—technologies that focus on automation and digitalization, cornerstones of the IoT.

Brycen Spencer works for Siemens as a sales manager within the company’s Building Technologies group for the local Massachusetts and Rhode Island markets. He manages a team that works directly with facility managers.

Spencer says he finds himself talking more and more with FM’s about “intelligent infrastructure solutions,” including how critical IT is to the whole process.

He explains, “In the future, you’re going to be trying to pull a lot more data from your buildings, and what you want to do now is really understand where you want

to go and what types of results you want to get from your facility, and then start building the infrastructure around that. What that really means is making sure your IT network can really support the demands that you’re going to put on your facility systems, like your automation, or your security, or your fire alarm system.”

Spencer says while he always starts his sales conversations with FM’s, he advocates IT involvement sooner rather than later, even though he acknowledges that some organizations are more open to FM+IT collaboration than others are. For some, remaining in their silos is more comfortable and seemingly easier at the outset. But Spencer warns that if FM’s exclude IT from IoT conversations, issues often come up down the road, most notably with security.

Spencer adds, “We strongly encourage, at some point, to make sure that we either come together as a group or we work as a liaison between understanding what the facility’s needs are and then bringing and relaying those to the IT group so that we can develop a solution for the whole business that makes sense for everybody.”

FM’s and IT: The Relationship Is Already Getting Closer for Some

Andrew DelPrete is one of the facility managers for the Boston office of Liberty Mutual Insurance. DelPrete says that while he’s always interacted with IT to some degree, he’s noticed that the relationship has grown much closer and, as he says, more “integrated,” all thanks to the IoT.

DelPrete explains, “I can already see that I’m working more with the IT and AV people since newer technology—whether it’s lighting or work stations or conference rooms—needs both of them to be able to allow the system to function.”

DelPrete says he’s fortunate that the corporate culture at Liberty Mutual fosters collaboration. His advice

for FM’s who might be facing a more adversarial environment is straightforward: work at developing relationships with people in IT.

“Get to know them a little bit,” DelPrete says. “Find that common interest. People, once you start working with them, you can begin to develop a relationship and earn trust. The trust won’t happen overnight, but it will happen, if you behave with integrity and consistently do what you say you will do.”

FUN FACT

“By 2025, it is estimated by industry experts that there may be as many as 1 trillion building sensors in place, or about 120 per every living person.”

Source: [IFMA launches portal for FM professionals to forge a shared path forward with the Internet of Things](#)



DelPrete continues, "At Liberty Mutual, with IT and AV, obviously during the time as a new hire, I didn't know them, they didn't know me, but once you start doing planned building shutdowns and projects, you start to understand they're a good resource to have and you need them in order to have a successful start-up or project. And now, after doing this for several years, I have a great relationship with all of them. At any given time, I can call them or send them an email to get a question answered or vice versa. They'll call me for a question or to just give me heads up that a project is on the radar and they will need my support. So developing and building that relationship is very important."

New Construction: An Opportunity for FMs and IT to Come Together

Sometimes, circumstances will "force" FMs and IT to work more closely. This is true for Akamai, which is building new headquarters across from its current location in Cambridge, Mass.

Akamai is the leading content delivery network (CDN) services provider for media and software delivery and cloud security solutions. Matthew Soares is Akamai's manager of facilities operations for the Americas. He says that this new construction project has resulted in a closer relationship between facilities and IT.

Soares says, "We realized last year that, 'Hey, we're doing this huge project together. We can't do it without IT's help, and IT can't do stuff to the building without our help.' So, we ended up having to solidify that relationship."

The biggest challenge in the beginning was communication: the two sides were talking among themselves, but not enough with each other. The solution? "We formed a facilities and IT thought-sharing committee," Soares explains. "There's a dozen of us from each of the departments, and we meet once a month."

Soares says this has made all the difference.

"Relationships have gotten better. Pretty much all the communications, all the meetings, all the vendor reviews and product demos have an IT person and an FM person sitting side by side. And it goes all the way up. You have some of the day-to-day operations people from both teams, all the way up to senior directors and vice presidents of both departments in the meetings together."

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~ Matthew Soares, Akamai

Spencer from Siemens echoes Soares' experience regarding new construction. Spencer says it's critical to have FMs and IT departments working together from the get-go because it can help eliminate redundancies and ensure the technology is as "future proof" as possible.

For example, new construction might include a smart lighting system, HVAC system, security system, and fire system. But if you don't plan for a way to integrate the data delivery from those systems, the FM might be staring at four or five different screens to run the newly erected building rather than one simple interface the FM can access from the building as well as remotely. By planning up front and bringing IT and FMs together, you can avoid a situation like this. The same is true when updating existing buildings. FMs and IT departments need to be in synch.

Of course, one of the legitimate concerns many FMs face is technological obsolescence. Spencer says that companies like Siemens work closely with FMs, showing them how to get the most out of their existing systems and how these systems might integrate or work with newer technologies. In essence, it's all about helping FMs protect the investments they've already made.

"Whether it's a building automation system, or security, or a fire alarm system, there's different ways to make sure that you can use everything you've invested in the past to take advantage of some of these future technologies," Spencer says.

Tips for Successful FM-IT Collaborations

Remember, it's all about developing relationships. Here are some strategies for building sound ones.

- Approach it as a team effort, not a turf war. FMs and IT have the same goals: creating safe, secure, comfortable environments for the building's physical occupants and for the data generated from within the building. FMs and IT need each other in order to accomplish these objectives, so it makes sense to dismantle any remaining silos that exist within these two departments.
 - Identify a lead from both sides. Facilities should delegate someone to be the FM "representative" and IT should do the same. These two reps will work together regarding new initiatives, product demos, and current projects.
 - Communicate regularly. Thanks to the way technology works, you will no longer have "one and done" projects when it comes to the Internet of Things. As new technology emerges, as data gets more complex, as security threats loom, it will be imperative that FMs and IT communicate regularly.
 - Be open to new ways of doing things. This can sometimes be the hardest pill for FMs to swallow, especially if you've been in the game for a while. It's easy to fall into the "if it isn't broken, why fix it" mentality as well. While implementing new technologies and systems can feel daunting at first, the benefits that you, your team, and your customers will reap is worth the effort.
 - Extend an olive branch, if necessary. If you're dealing with pushback from people within your own department or from the IT department, the best thing you can do is be the first to show a willingness to collaborate. This might involve inviting someone from the IT department to sit in on a product demo or encouraging your own team to learn more about the IoT and to reach out to their IT counterparts (and you should acknowledge and congratulate employees who do so).
- Consult outside sources when necessary. Objective third parties experienced in the IoT can be a great resource to both FMs and IT. For example, Akamai hired IoT consultants to tour other companies that had recently gone through similar construction projects. The consultants looked at different technologies, discussed what worked and what didn't, and what the companies might have done differently. Such insights can provide excellent guidance as well as an entry point for IT and FMs to come together.
 - Don't forget the end user. Sometimes it's easy to get so caught up in the collaboration with IT that you can overlook the importance of collaborating with a building's occupants. Remember to seek their input as well (this is especially true for new construction).
 - Continue educating yourself. Don't forget this important point: the IT department doesn't have all the knowledge. FMs bear a big part of the success of any IoT initiative. The best thing you can do is educate yourself on the IoT, specifically how other FMs are managing it. Note: earlier this year, IFMA launched a portal where FMs can share knowledge. [Learn more about the IFMA IoT portal.](#)

What Does the Future Hold?

Back in April, ServiceChannel, which provides facility management software, published [an interesting article](#) discussing why IT and FMs need to come together, thanks to the IoT. "The bottom line of these emerging trends is that FM and IT departments have to recognize the common destinies they share and how they need to work together better."

Common destinies.

Working together.

That essentially sums up what The Internet of Things—and its millions and millions of connected devices—is all about.

[Learn more about the IoT](#), including how it might affect you in 2018, in our upcoming webinar: [The Inside Scoop on The Internet of Things](#), which includes a panel discussion between all of the contributors from this white paper. Tuesday, January 23rd @ Noon. [Register today!](#)



IFMA™ Boston Chapter

International Facility Management Association

About IFMA Boston

Established in 1984, the International Facility Management Association's Boston Chapter is a non-profit, incorporated association dedicated to serving the facility management profession. IFMA Boston strives to enhance the recognition and integrity of the profession, while providing facility professionals with the services and information they need to advance their careers. The International organization provides education, research, publications, events, and alliances with other related associations and organizations.

IFMA Boston is the only organization dedicated to helping facility management professionals add more value to their organizations by providing them with:

- Support for their careers
- Access to best practice & benchmark information
- A diverse mix of interactive events
- Tools to help navigate the changing workplace

To learn more, visit www.ifmaboston.org.

Contributing individuals are from IFMA Boston member companies.

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