

KELLY: Hey Bob.

BOB: Hey Kelly.

KELLY: So it's just you and me today because when Alia is not here, we're going to do a minisode. Bob, can you tell us what a minisode is?

BOB: Sure. Listeners send us questions all the time, and in the minisode we're going to take one question and do a deep dive and try to answer them. Come up with really practical advice, something that can do today to make their digital lives a little safer, better, or at least less annoying.

KELLY: Now for our first question.

LISTENER: This is Brian from Lansing, Michigan. So Bob, in our city, the local electric company is starting to install smart meters. On my neighborhood Facebook page, there's a lot of pushback and people that are opting out for this new technology. The largest concern is privacy. How much should we fear that our electric company is learning about us? I've seen people claim that with smart meters they will be able to detect what TV shows we are watching and what brands and models our, our appliances are. Is the risk worth the social gain we get for having a robust power failure detection grid that you get if most or all houses in a city have smart meters. Anyways, thanks and good luck on the new show. Brian.

KELLY: So Bob, do you think you have an answer for us?

BOB: I think so.

KELLY: Great. We'll find out after the break.

[BREAK]

BOB: So I actually love the smart meter question because I feel like it is such a great encapsulation of all of the things that offer this great promise of technology with this dark side and these privacy issues that sort of hang on the back of it and really risk us losing a generation of power savings and innovation because we're not handling the issue correctly. The essence of the smart meter question is, wait a minute, they're putting this gadget in my house. How much can it really know about me? Can it see things like, you know, when I wake up, how often I use the microwave, what's my exercise schedule and all that sounds sci-fi and crazy. And maybe if you've never thought about this issue, you, you might think somebody like Brian is, has got one of those tinfoil hats. But in fact he's spot on. This is a really important question.

KELLY: Okay. So for those of us who don't know: what are smart meters?

BOB: What's a smart meter. A lot of folks will know what they are because almost half of American households now have a smart meter. Old fashioned analog meters, you might remember somebody coming out to check them once a month or once a quarter to see how much power you used. These meters that have, um, a way to communicate with the electric company are being installed in people's houses, millions at a time all around the country. And they electronically over a cell phone network or over a wire, send the data on usage directly to the power company all the time, as frequently as every 10 or 15 minutes. So they no longer have to send someone to your house to check on how much power you're using. And obviously that's a savings, but they get way more information than that. And you know, we all know that we live at a time where you know, in the summer there can be brown outs and power outages, and intelligent use of power is really important, and smart meters offer this really, really uh optimistic view of the future where power companies can on the fly do a better job of predicting load and predicting when brownouts happen and and responding when there's storms and all that. So all that's really promising. But on the dark side of this, and what's behind Brian's question, is what does the power company really know when they have that much information coming out of your house? And again it sounds like sci-fi, but it's not. All these gadgets you have in your house from your refrigerator to your microwave, to your computer. They have what's called a load signature. It's actually possible to tell what gadget is being turned on when and when it's being turned off from as far away as thousands of miles where the home office is for the power company. So there is lots of privacy implications to having a smart meter installed in your house. And I think the most obvious one is it's going to be obvious to the power company when you get home at night, when you get home and turn on the lights or what time you wake up in the morning, when you get active. And it doesn't take long for your mind to wander. You know, do you really want your power company to know when you get home at night? One of the basic principles of privacy concerns is once data is collected, then it's available forever to all sorts of legal authorities. And immediately we think of police. So if the police wanted to know, if you were home to verify an alibi, perhaps they could use your smart meter to find out. But not just law enforcement. It's available to anyone with a subpoena. So let's say you're in a divorce proceeding, and there's a child custody argument, and one partner wants to argue the other one isn't a good parent. And you know, look, your honor, this person gets home after midnight five days a week and has for the last year and a half. Those things are absolutely possible with smart meters.

KELLY: Oh my goodness.

BOB: Yeah. And so the, these are things that we, uh, you know, we often don't think about when we bring new technology into our houses, but clever lawyers can make all sorts of use of this information. Now how long that will be legal and what kind of guard rails will be put around this data? Well that's the issue of privacy in, in all of these different technologies that we use. And you know, the courts are way behind in setting a lot of rules on these things. But this is such an important issue because if we don't trust our smart meters, then you have reactions like Brian's and they're happening all around the country where people are forbidding power companies to

install smart meters on their houses. I actually went to a website preparing for this podcast that make signs that you can post on your analog meter that say, dear construction company, do not remove this. Most of the places that are installing them do offer some way of opting out of the system and keeping your analog meter. And a lot of people are afraid of the technology and don't want it. But just with easy pass and a lot of other technologies, it's almost cost prohibitive. There's a big fee for installing an old analog meter back on your house and there's a monthly fee because of course the power company doesn't want to have to send people to your house. In truth, there isn't a great option for people who are afraid of this. And so the real answer is to set up some very strict privacy controls around who gets to use this data and why. And there's been a couple of promising court rulings around this, but still as often happens, the law is far behind the technology and figuring out how this data can be used and by who.

KELLY: So is this kind of stuff only really able to be subpoenaed like in a court of law, or by law enforcement, or any kind of authority, or do you think there's a potential for this information to get, like, sold to third parties for more information gathering on people?

BOB: First of all, the data is liable to be accessed by someone who works at the power company. So who knows what employees of the power company might be interested in looking. Maybe you want to check on, see if your ex girlfriend is coming home late at night or something like that. That's probably not a permissible use, but it's certainly an obvious one. Can the power companies sell the data? Probably. That depends on the contract the power company has with you. Um, and what are the guardrails are around that data. They may have to get your consent to do that, but as we've seen with other So, Bob episodes, usually consent comes just from signing up for the service and you need power, so where are you going to do, deny the terms of service that you get handed by the power company? So yes, the power company could sell the data or otherwise swap the data or, or the power company could be acquired by another company and then that the data is transferred as part of the acquisition.

KELLY: And usually that's the only power company that is offered in your area sometimes, you know.

BOB: Yeah, I mean some people have competition for power, but if there is competition it's a couple of people, and you're right. So, so you don't have it. It's a utility by definition, right? So you don't really have a lot of options there. Something else that's, since you brought up third parties, it's really, really important. One of the most important privacy rules, and it's a, it's a, it's a precedent set by the Supreme Court, is something called the third party doctrine. So generally speaking, there's plenty of cases that show police couldn't do something weird with technology to follow you around. Like there's, there's a really famous case involving the use of thermal imaging by police on the side of the road in a public place, but using thermal management imaging to see if there are crazy lights being used in someone's house, which is usually a sign that they're growing marijuana. There was a situation where police used this technology and the court ruled that out. That's, that's a pretty clear unfair search of someone's home, right? So, so that's illegal for police to do something like that directly. However, if you make an agreement

with a private company, and you voluntarily give your data, precedent has held that once you give your data to a third party, cops can get that for free. So whatever rights you have directly and in criminal investigation with police, you basically throw them out the window once you give your data to a company because the thinking goes, you've surrendered your expectation of privacy once you give your information to a big company like a power company. Fortunately there started to be rulings and federal courts that at least with something like cell phone location data that are overturning this notion of a third party doctrine. So these things are evolving, but as a general rule, American should still know the second that they give any information to a private company under any circumstance, it's very liable that that private company can turn around and give it to law enforcement, and it can be used against you in a court of law, and you have no expectation of privacy.

KELLY: So you're saying when you sign up, say for this energy service and they say, we're using smart meters, and you're like, okay, whatever. Cool. That would be considered you giving your information over to a company. Is that what you're saying?

BOB: Yes. Yeah. That according to the third party doctrine, and again, there are colliding legal principles here, but according to the third party doctrine, the minute you give that information to the power company, you might as well have handed it to the government.

KELLY: Oh my goodness. And you don't even think about that. You're like, well, I need power, so what am I going to do?

BOB: Yeah, yeah, that I, that's the, that's sort of the bottom line here. And just, just to throw out a couple of numbers I found when I was getting ready for this, in 2017 alone, over 57 million smart meters were installed in American homes and roughly 40% of American households now have smart meters. Most folks think by 2020 that's going to be up to 80%. So smart meters are a reality for most of Americans now. And so we're going to have to deal with this. Like one of the big hanging questions here is who owns the data? When the power company figures out what time you get home every night using smart meter data, uh, which, which is intelligent for them to do because they can plan for loads. Now, if you know, if a certain city tends to get home later because people are working longer hours while they can adjust how they buy power and whatnot, so that makes sense for them to collect this. But is it your data? Do you have the right to say, examine it? What if there's a mistake in the data, just like with credit reports, it's very well could be a mistake and then that could be something that was used against you in some way. Let's say one day a health insurance company decides that people who go to bed later are 10% more likely to have heart attacks, and so they start charging more to those kinds of consumers and they discover from power data, this set of people are more likely to go to bed late and be unhealthy. So that kind of stuff is all out there for the taking at the moment because we don't have guard rules around this data. So the question is who owns the data? I would argue at the moment the power company does and the power company can do what it wants, with the data until told otherwise by either state, federal legislators or by a court. So that's an important issue and I'm glad that there are people willing to take extreme steps like refusal of a smart meter and

and some of them are paying, typically it can be \$100 just to say no and then maybe \$20 a month, \$30 a month to have someone come manually read your meter. In reality, the economic punishment for not signing up for this new world is too high for most people. They won't do it. And I'm not going to suggest to someone that they do it because of that. However, I'm very glad there are people who do that because it's the noisy ones who are going to make a difference and make us actually think about this. So, so again, if someone says to me, should I just refuse a smart meter? I'm not going to tell them to, but I'm glad there are people taking up the fight.

KELLY: So Bob, could you give me the TLDR, are these smart meters like Brian asked worth the societal, like is this societal gain worth the risk?

BOB: Yeah, and I actually do want to address that for a moment because the societal risk is that we spend 50 years arguing about this and waste a lot of electricity because smart meters and smart cities in general have great potential to save power, to be a more environmental fine tuning around the edges when we produce electricity is incredibly valuable and can save the planet, can make us more conscious of our usage. There's all sorts of great things, great potential that smart meters have, and we risk throwing it all away by not reassuring people that smart meters aren't going to ruin them somehow in terms of privacy, law enforcement, health insurance, who knows what? So smart meters absolutely bring with them great privacy risks, and we're in this brave new world, and we haven't gotten anywhere near close to reassuring people that this technology will be safe and won't hurt them going forward. But boy, it's important that we do because smart meters hold out this fantastic premise for the future. And so we have to figure out quickly how to make people trust them so that we don't waste this opportunity.

KELLY: If the mystery behind smart meters were an episode of Scooby Doo, then Bob Sullivan would be the whole Scooby gang always pulling off the mask at the end. Thanks for your sleuthing, Bob. If you have questions about your digital life, write to us at sobob@spokemedia.io, or DM us on Twitter or Instagram @sobobpod. You may be featured on our next mini-sode. Check out our show notes for more information about the things you heard in this episode. And special thanks to Brian and Lansing for this week's question. So, Bob is a Spoke Media production. It's hosted by Alia Tavakolian and Bob Sullivan. It's produced by me, Kelly Kolff with help from Reyes Mendoza and Carson McCain. This episode was mixed by Will Short. The songs you hear in this episode come from FirstCom. Our executive producer is Keith Reynolds. Thanks for listening.