/dev/random
Distributed System Administration

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Usually when we have an issue with multiple themes I pick one or the other to mock/expound upon/reveal my gross ignorance about, but on this occasion I've decided to combine them. I spent years as a system administrator, and, in common with most of you, what I laughingly refer to as my earnings are distributed amongst a wide variety of government agencies via taxation (and more taxation, and then some additional taxation after that in case there's anything left over), so I feel as qualified as anyone with similar qualifications to address both of this issue's topics.

Now, the problem with sysadmins is that they have not kept their image modern. By that I mean that while computing was evolving by leaps and bounds around them, the system administrator was stuck in 1998. I picked that year because that was probably the high point of my sysadmin career, if it can be said to have experienced a high point at all. It was shortly after that I wrote "Chasing the Wind" for *Security Focus*. When I look back at that fictional account now, it seems quaint: a relic of a bygone era. It was a product of a more innocent time and a more innocent author with a constant need to generate income. I'm not so innocent now. The sysadmin as a species hasn't changed much, either.

Before I proceed any further along the primrose path (pausing every so often to pluck out the primrose thorns), I want to take a brief side trip to that rising star of technological ubiquity, the much-vaunted Internet of Things. Most of the non-technical public, or so it seems to me, think of the IoT (when they think of it at all) as just a nifty way to control their refrigerator, air conditioner, cigar humidor, and basement sump pump via smartphone from the bar or airport (or airport bar).

But as my readers all know, IoT is far more than that. Once every macroscopic object in your household has its own wireless network interface and IP address, the possibilities for both utility and mayhem are virtually endless. But, uncharacteristically getting to the point, is the Internet of Things composed merely of things, or are traditional network devices included? Is your wireless router part of IoT, or just something to which the IoT connects? The reason this makes a difference is that nasty ol' bugbear of connectivity, security.

I had a dream recently (last night, actually, which as we've covered many times would be like back in the day for you), where the IoT played a major role. Instead of household appliances and smartphone-operated audiovisual devices, the network nodes were implanted in clones of "Things One and Two" from Dr. Seuss, "Thing" from the Addams Family, Ben Grimm, and an uncomfortably hideous grotesque humanoid from *The Thing*. It was one of my patented nocturnal excursions into self-induced insanity where I can't decide whether to laugh or scream in horror. This began when, as a child, I noticed that "laughter" is not only embedded in but constitutes almost 90 percent of "slaughter." That kind of thing takes its toll.

How is this relevant to security? My, aren't we the impatient one today? Other than childhood monsters that never left, the underlying trigger for this dream was my fear that, as with every other aspect of this worldwide meta-neural rete to which we are all now surgically

attached, security would be pasted onto the finished product with tape and paperclips, rather than designed into the fundamental infrastructure.

A few months ago I retired from many years of clubbing the US federal government over their pointy but durable heads—for the most part fruitlessly—with the hardwood 2x4 of infosec. I am, as happens to me frequently, simultaneously appalled and amused that cybersecurity is suddenly a major buzzword in the hallowed halls of executive and legislative governance. I and many others have been waving that brightly colored banner in their faces for two decades or more. They just patted us on the heads and said, "That's nice, little Jimmy: now run and play outside while the grownups drink their morning Kool-Aid."

Adrift on my tiny raft in a turgid sea of I-told-you-so, I find little comfort or triumph in the destination. I can't help but reflect on what a different world it might be had any of those elected talking heads actually listened to us, but there's really not much to be gained by what-ifs except weeds in the verdant lawn of the subconscious. Let's wend our way back to the titular topic now, shall we? Did anyone remember to leave breadcrumbs?

Distributed systems are all the rage these days, so it's only natural that we should also distribute the administration thereof, right? System Administration as a Service (SAaaS, which sounds like Frankenstein's monster before coffee) no doubt already exists in the cloud, although the idea that an unspecified collection of disbursed electronics and code could effectively be managed by an equally but separately disbursed unspecified collection of human neurons rather beggars the imagination. Of course, some are now calling for a total cessation to human

intervention in this architecture, which proposal might well form the basis for my next terrifyingly jocular oneiric misadventure. Hopefully this time there will be snacks.

What would distributed system administration entail, precisely? Well, one relatively sane application I can see would be for systems that require around-the-clock (human) monitoring and tweaking. In that scenario the sysadmin duties could simply move along with the terminator (I'll be back in 24 hours). A somewhat trivial implementation, admittedly, but triviality has more or less been my hallmark as a humorist, so there you go.

Which brings me, willy-nilly, to my final point. Over the past nine years I have made a number of proposals in this space that ranged from the marginally sublime to the out-and-out ridiculous. That's because I am the, or rather a, humor columnist for this magazine. The number of readers who fail to pick up on that critically salient point is a source of continual amazement for me. I've been asked to present my, um, "engineering" ideas at some fairly high-profile conferences and meetings. I'm not sure whether this stems from my failure to be funny or just from the "nothing-is-too-stupid-to-try" entrepreneurial spirit of the interwebs these days. Most likely, both.

Regardless, if any of the systems or techniques or processes I propose seem as though they might be technically sound and implementable, I strongly encourage you to chart them out in your favorite graphics program or spreadsheet and then stare at them for a few minutes. I'm pretty sure the resulting representation of silly will scare you away, but if not and you decide to forge ahead to certain doom, please remember one thing: it's not my fault. You were warned.