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/dev/random: cloud computing, or, on the origin of specie



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CLOUD COMPUTING IS BASED ON THE quaint and possibly apocalyptic marketing strategy that casting your precious data out to be masticated by strangers you'll never meet in a vast cesspool of discombobulated CPU cycles with no discernible perimeter is somehow the future of digital processing; moreover, that this is a future devoutly to be wished. I take umbrage at this notion (I have amassed a great store of umbrage over the years; my wife made me move most of it up to the attic) and, in the convoluted fashion of my tribe (*Homo sapiens incoherentus*), will attempt to teach you why this is not the True Path of Digital Enlightenment. I can't tell you what the true path is, admittedly, but I'll know it when I see it. I'm not seeing it here.

In the Beginning (cue wavy flashback accompanied by *Also Sprach Zarathustra*), computing was accomplished in surplus aircraft hangers using relays and vacuum tubes with conductors so expansive you could watch the li'l electrons wend their merry way along the data path. Every so often a couple would stop and make out in the weeds behind a cathode and later a sharp-eyed observer might spot a small family of quarks trailing willy-nilly along after them. In those days you knew where your bits were at any given moment, even if you sometimes had to hail a taxi to get to them.

The next beachhead bravely to be breached was that of solid-state computing. This miraculous manifestation of miniaturization shrank the computational playing field from agriculturally significant to merely mall-sized. No longer would vast tracts of virgin old-growth forest need to be cleared in order to calculate the value of pi to the next digit. This left vast tracts of virgin old-growth forest available to be cleared for strip centers and cardboard-quality housing developments. Lo, there was much rejoicing, and the gnashing of overstuffed wallets filled the crisp morning air.

It is my considered opinion that a significant contributor to the secret underlying the spectacular success of solid-state electronics lies with the labels given to components thereof. "Zener diode" is one such example. I mean, how cool a name is that? Zener, zener, what a weener. Not only do the devices have great names, many of the terms re-

lated to solid-state electronics are masterpieces of technopoetry in their own right. “Maximum Reverse Standoff Voltage,” “Parasitic Capacitance,” and “Avalanche Breakdown” top my list. That last one sounds like a chart-busting bluegrass album.

Today the process of electronics shrinkage has reached downright ridiculous proportions. A computer that would have overflowed Yankee Stadium in the fifties now fits comfortably in the end of a ballpoint pen, with room left over for an LED flashlight. What has driven this eternal striving for smaller and faster? Well, money, of course: what else? We just keep pushing the envelope with more and more processing power in a more and more compact package because that’s the marketeer-generated perception of What the Public Wants. At some point the envelope is bound to start pushing back, and then where will we be? I’ll be out in the pool with an amber ale, if anyone cares.

Practical computing left the gate as mainframes with terminals, glided smoothly up the ramp to client-server architectures, then took a sharp, albeit brief, detour into the thin clients cul-de-sac, veering off at last into a somewhat uneasy mix of client-server and P2P. As networking grew in sophistication, we hooked increasingly greater numbers of systems together in increasingly complex recipes, with lots of spicy network appliances for color and texture. Meanwhile, the Internet was gestating in parallel, insinuating its myriad tentacles into our most secret places like some B horror movie monster. At first it was just a novelty communications tool, good for telling co-workers where to meet for lunch and for avoiding actual productivity with IRC and crude CGI scripts. Then social networking came along, and with it an incalculable number of distractions from getting anything resembling work done.

All this time, however, we still had the company-owned LAN/MAN/WAN chugging away doing the corporate computational drudge work while we sacrificed our brain cells to streaming video and “Which Pathogenic Microorganism Are You?” quizzes on Facebook. The Internet may have been costing Corporate America money indirectly due to lost productivity (assuming productivity was in the mission statement to begin with), but it wasn’t putting an active squeeze on accounts payable except as an incidental by-product of network connectivity.

I and numerous others have known (and decried loudly) from the early nineties that the Internet would eventually rule all aspects of civilization. The inflection point toward inevitability came, in my analysis, the day animated .gifs were released upon an unsuspecting and undefended public. At that instant the Web (which is really the only part of the Internet that matters to most users) became a mesmerizing place that could hold the attention of even/especially the semi-literate. Since dynamic systems tend to take the path of least resistance, semi-literacy became the baseline toward which all Web presentations tended and, in reciprocal response, that degenerate intellectual state emerged as the norm. Now we have Flash-only Web sites featuring HD video and 5.1 Surround Sound with no textual content whatever. Hypertext has gone the way of the ponderous Apatosaurus, to be replaced by the amphetaminic Apathosaurus, which feeds exclusively on twelve content-free audiovisuals per minute.

Which brings us, at last, to the Cloud. Clouds, it should be pointed out, are primarily aerial phenomena: insubstantial, ethereal, and yet capable of wreaking great havoc. Once inside one, you may have supreme difficulty finding your way out again. When you do, you may have no idea where you are or how to get back to where you wanted to be. Cloud computing is like UDP, except that it’s your entire data stream you’re entrusting to the vagaries

of the meta-network, not just an odd packet or two. We've come full circle: the whole planet has become our server room and, boy, is the air-conditioning bill going to be huge this month. If you think global warming is bad now . . .

Hey, all you trend slave early-adopter-at-any-cost corporate IT departments out there: pack your mission-critical data into a bottle, toss it out into the Humboldt current, and hope it somehow finds the correct destination, is processed to your specifications, and makes it back to you someday without being nibbled on by every fish that swims by along the route. Pay us a lot of money for this privilege. Do it now, or suffer the dire consequences of . . . um . . . not doing it now.

Heck of a business model.