

# THE DAILY RECORD

WESTERN NEW YORK'S SOURCE FOR LAW, REAL ESTATE, FINANCE AND GENERAL INTELLIGENCE SINCE 1908

## LegalCURRENTS

### Cloud computing and the electrical grid, Part 1

In his book, *The Big Switch*, Nicholas Carr compares the democratization of electricity to the transformation that is now occurring in computing. He suggests that the history of the production and distribution of electricity directly parallels that which is occurring in computing today. Just like electricity, which was once a resource privately owned and produced by large businesses for their own use and then later became supplied to the masses by public utilities, so too is the processing of information becoming a utility.

The similarities between these two phenomena, electricity and computing, are what makes this comparison so appealing. The greatest similarity is that both need not be produced locally, but rather can be delivered to the end user from any location. Likewise, both innovations — electricity and computing — have inarguably changed the way that we live, and each have altered the framework of our culture on a fundamental level. Finally, each was shaped by similar economic forces driven by the very essence of the product being delivered, whether electricity or computing power. In other words, the unique nature of each product and the increased demand for access to it necessarily affected its method of delivery.

Of course, as Carr concedes, it's not a perfect analogy and there are a number of important conceptual differences between information technology and electricity. Nevertheless, the similarities between the two are striking and worth a second look. So, in this column and next week's column, let's examine these similarities.

First, both electricity and computing are innovations that have greatly altered the business world and our society as a whole. Each has had far-reaching consequences that changed the very structure of our world.

It is indisputable that both cloud computing and electricity have affected our day-to-day lives on a fundamental level. Generally speaking, not a moment goes by that we are not somehow tapped into the electrical grid as part of our day-to-day routine. In fact, it is difficult to imagine modern life without electricity.

We were rudely reminded of this fact on Aug. 14, 2003, when the Northeastern and Northwestern United States and parts of Canada suffered a widespread power outage. Over 55 million people were affected by the blackout, which lasted more than 24 hours in some areas. It was not until access to electricity was abruptly and unexpectedly removed from our lives that our dependency upon it became apparent.

On that hot, humid summer evening, as the sun began to set, people spilled into the streets of their neighborhoods, taking advantage of the last few minutes of daylight. Children played in the streets, rather than watched television. Neighbors gathered on porches, conversing quietly until late in the evening.

That evening felt like a time warp, taking us back to a time that existed not that long ago — a time when computers, air conditioning and television did not exist. The power outage served as a reminder of how electricity is inexorably intertwined with our daily lives.

Likewise, with the advent of smart phones and the increasing use of mobile devices, the same can be said of computing. If we are not already connected to the information superhighway, immediate access is just a click away. Smart phones, tablet computers, free WiFi, and the ever-increasing use of personal WiFi hotspots, such as Verizon's MiFi or Sprint's personal WiFi, ensure that Internet access is readily available no matter where you are. And if you have access to an Internet connection, then you have access to the cloud. Like electricity, cloud computing soon will be ubiquitous.

Another important and telling similarity between computing and electricity is the way in which the delivery methods of each were affected by economic forces and technological advancements. Like computers, electricity was initially used only by businesses. The companies that required electricity produced the power that was needed to operate their factories

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and run their manufacturing processes. Accordingly, toward the end of the 19th century, most power plants were privately owned by large businesses.

The same can be said regarding computing power, especially in the legal field. Most law offices continue to own and maintain computer hardware on site. Outsourcing computing power is looking upon with suspicion and cloud computing is not yet the norm. But, in my opinion, it will be the norm in the very near future.

Next week we'll examine how and why the outsourcing of

power production occurred and how that process parallels what is happening today as businesses increasingly turn to the cloud for their computing needs.

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