

WHY CLOUD IS AS 'GREEN' AS IT GETS

I stumbled across a document from Greenpeace citing cloud for additional power draws and the need for more renewable energy

(<http://www.greenpeace.org/international/en/publications/reports/make-it-green-cloud-computing/>.) This is one of a series I've been noticing from the organization bastardizing IT for its effect on the environment and chastising companies for new data centers. These articles all strike a cord with me because they show a complete lack of understanding of what cloud is, does and will do on the whole especially where it concerns energy consumption and 'green' computing.

Greenpeace seems to be looking at cloud as additional hardware and data centers being built to serve more and more data. While cloud is driving new equipment, new data centers and larger computing infrastructures it is doing so to consolidate computing overall. Speaking of public cloud specifically there is nothing more green than moving to a fully cloud infrastructure. It's not about a company adding new services it's about moving those services from underutilized internal systems onto highly optimized and utilized shared public infrastructure.

Another point they seem to be missing is the speed at which technology moves. A state of the art data center built 5-6 years ago would be lucky to reach 1.5:1 Power

Usage Effectiveness (PUE) whereas today's state-of-the-art data centers can get to 1.2:1 or below. This means that a new data center can potentially waste .3 or more KW less per processing KW than one built 5-6 years ago. Whether that's renewable energy or not is irrelevant, it's a good thing.

The most efficient privately owned data centers moving forward will be ones built as private-cloud infrastructures that can utilize resources on demand, scale-up/scale-down instantly and automatically shift workloads during non-peak times to power off unneeded equipment. Even the best of these won't come close to the potential efficiency of public cloud offerings which can leverage the same advantages and gain exponential benefits by spreading them across hundreds of global customers maintaining high utilization rates around the clock and calendar year.

Greenpeace lashing out at cloud and focusing on pushes for renewable energy is naive and short sighted. Several other factors go into thinking green with data center. Power/Cooling are definitely key, but what about utilization? Turning a server off during off peak times is great to save power but that still means the components of the computer had to be mined, shipped, assembled, packaged, and delivered to me in order to sit powered off 1/3 of the day when I don't need the cycles. That hardware will still be refreshed the same way at which point some of

the components may be recycled and the rest will be non-biodegradable and sometimes harmful waste.

Large data centers housing public clouds have the promise of overall reduced power and cooling with maximum utilization. You have to look at the whole picture to really go green.

Greenpeace: While you're out there casting stones at big data centers how about you publish some of your numbers? Let's see the power, cooling, utilization numbers for your computing/data centers, actual numbers not what you offset by sending a check to Al Gore's bank account. While you're at it throw in the costs and damage created by your print advertisement (paper, ink, power) etc. Give us a chance to see how green you are.

Source: <http://www.definethecloud.net/why-cloud-is-as-green-as-it-gets/>