

# Microsoft paper proposes using 'cloud' servers to heat homes

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(PhysOrg.com) -- Microsoft has published a research paper that proposes installing servers used for cloud computing into homes and businesses, instead of in vast data centers. The idea being, that because such servers generate so much heat, why not use them to heat homes, instead of wasting even more energy by cooling the air in centralized locations.

The paper, “[The Data Furnace: Heating Up with Cloud Computing](#)” published by [Microsoft](#) Research, in conjunction with Virginia University researchers, looks at the feasibility of selling “Data Furnaces” (DFs) to consumers, who would then benefit by having their winter heating bills reduced down to almost zero. The authors argue that the cost savings of doing so, for [cloud computing](#) companies, would be

significant (they estimate from \$280 to \$324 a year per server.)

The authors envision having DFs in the basements of homes all over the country, clustered around cities, of course, where the most demand for those servers exists. A customer would purchase a unit and have it installed in the basement, where it would [heat](#) the home, and could be used for other purposes as well, such as heating hot water or drying clothes. In such a small scale system, the author's believe that an existing broadband connection could be used, thus no additional data transfer hardware or software would need to be installed. As part of their purchase, users would agree to replace filters and reset or turn serves on or off if and when needed. For users that live in northern parts of the country, such as around New York City or Chicago, cost savings could be dramatic. In the summer, the DF could either be turned off, or the heat vented outside.

Larger systems with more CPUs could be installed in business buildings large and small, allowing for more computing power for the cloud company, and free or reduced heating bills for the hosts.

If such a system were to be put in place, the authors argue that storage and computing power for cloud applications could increase without an increase in electrical demand (which they say was 3% of total US demand as of 2006) because the electricity used to run the DFs would be offset by the reduction in electricity used to normally heat the homes. They also point out that such a distributed system would result in faster access times for customers since the [servers](#) would be located near the customers.

One issue not addressed in the paper is the variable throughput that users of home-based broadband have become accustomed to; an issue that while annoying to customers, might cause havoc with cloud based applications. Presumably, if this were to occur, the server company

would have to foot the bill for a dedicated T1 line, or something similar. Other issues that would have to be resolved would center around data security, maintenance and what to do during power outages.

**More information:**

via [i-Programmer](#)

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