

The Green Grid examines DC power study

The Green Grid, a consortium of mostly vendors looking to push the IT industry toward being more energy efficient power servers, is holding a technical forum in the Bay Area early this week. On Friday they held a Webcast with reporters to talk about some of the progress the group has made in the past year or so.

The technical forum looks like it's going to be interesting — SearchDataCenter.com's own Matt Stansberry will be there digging up the good stories — but the Webcast didn't offer that much. But there was one good nugget: the group announced that it has written a peer report of a recent study on using DC power in the data center for power servers.

Back in 2006, The Lawrence Berkley National Laboratory (LBNL) ran a demonstration project comparing the use of AC power vs. DC power in the data center. The study claimed that data centers could save 10-20% on their energy costs by using DC power.

Here's the skinny on the logic of using DC power vs. AC power. When the utility sends electricity to a customer, it's in AC. That then goes through multiple conversions back-and-forth between AC and DC power before ending up in each server in the form of DC power. In a DC-powered system, there is only one conversion at the beginning. Since energy can be lost with each conversion, DC power proponents claimed savings.

There are drawbacks, however. DC-powered IT equipment can be harder to come by. Transferring AC power over long distances is easier because doing so with DC requires much larger wires. And there aren't as many electricians out there who are experts in DC power.

Now there are questions being raised about the LBNL study. Though the Green Grid wouldn't say what's in its peer review report — which is scheduled to be released this week — there have been rumblings about whether the study compared old AC-powered equipment with newer DC-powered equipment. If that's the case, it likely wouldn't be considered a fair study, and the benefits of using DC power might be less than LBNL originally claimed.

It will be interesting to see what exactly the peer review study says. We'll be keeping an eye on the issue and let you know about it.