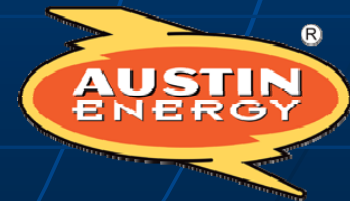


Trends in Data Centers

Server Farm in a Box

Jerrel Lee Wallace

Power Systems Consulting Engineer



Data Center Trends

- Customer inquiry
- Container-based data centers
- Concerns
- Discussion



Customer Inquiry

- Excess capacity
- Two substations
- Initial 10 MW (within 8-10 months)
- Adding 10 MW monthly
- Ultimate 100 MW
- 10 months



Data Center in a Box

“Container Based Data Center”



Flash Drive/Data Center



Vendors

- Google
- Sun
- Rackable systems
- Cisco
- HP
- IBM
- Dell
- APC



In a Trailer Truck



ISO Standard Shipping Container



What's Inside?

- Some are fully self contained with power conditioning equipment, UPS, etc.
- Some may even include backup generation
- Typical data center racks with blade servers



A Look Inside



Plug and Play

- Concrete pad, with/without a roof structure
- Inside a warehouse type building
- Umbilical connections for broadband, water, power



One Example



Power

- Some require 208V, others 240V
- 250 to 500 kW per container
- One article projected densities in the 1,000 to 1,400 watts per square foot range



Concerns

- **Short timelines**
 - 12-16 week delivery
- **Power density**
- **Portability**



Information Sources

- Data Center Knowledge

<http://www.datacenterknowledge.com/>

- HP's Web site

<http://h20338.www2.hp.com/enterprise/cache/595887-0-0-0-121.html>



QUESTIONS

