



THE WORLD'S FINEST
DATA CENTERS

Ensuring Data Center Reliability for
Mission-Critical – and Mission Impossible – Applications



Relevant Background



- 1998 - 2000
- Built over 1M square feet of data center real estate
- Budget of \$1.1B



- 2002 - Present
- Own and operate 5 modern data centers nationwide
- Modern facilities

Key Customers



Data Center Challenges

- **Server sprawl**
 - U.S. servers will grow by five million to more than 25 million by 2009
- **Rising power demands**
 - 4X increase in the past three years
- **Aging inventory**
 - By 2008, 50% of current data centers will have insufficient power and cooling capacity to meet the demands of high-density equipment
- **Scarce data center inventory**
 - Utilization averages 66% nationally in modern facilities
 - Rising 15% per year in key markets



Essential Data Center Checklist

Power



Cooling



Security



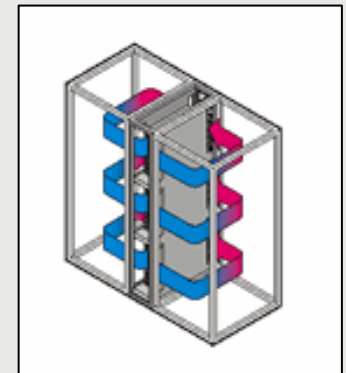
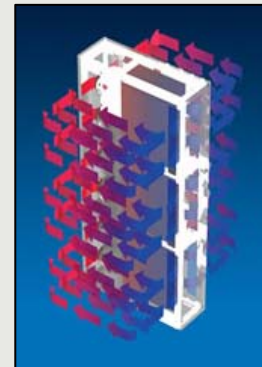
Essential Power Checklist



- ✓ 100-175 W/sf
- ✓ N+1 redundancy minimum
- ✓ CPS generators recommended
- ✓ “Pay for what you use” pricing

Essential Cooling Checklist

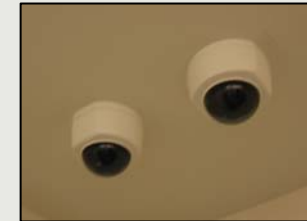
- ✓ **N+1 redundancy minimum**
- ✓ **Make-up water on site with at least 48 hours of back-up**
- ✓ **Ensure power capabilities before investing in in-row cooling solutions**
- ✓ **Water cooling is (re)emerging**



Essential Security Checklist



- ✓ **Security Reception with Bulletproof Glass**
- ✓ **Biometric Security Entrance**
- ✓ **Security Cameras with on-site storage**
- ✓ **Customer access list via secure portal**



Summary





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Derek Wise - GNI

- **Introduction**
- **What GNI looks for in a data center, describe your process**
 - Describe why water cooling is increasingly of interest
- **Bladecenter cost/performance analysis**
- **Network/infrastructure redundancy examples in current GNI deployment**