RICHARDSON
BUILDING DIAGNOSTICS
COMPREHENSIVE ENERGY SOLUTIONS

ITI Data Center

Any facility that manages critical data cannot afford any downtime due to electrical failure. It is essential that any electro-mechanical equipment be diagnosed and maintained to ensure reliability. Information Technology (IT) personnel aim for 99.999% uptime for any electrical system. A loss of power to a critical data center will potentially cost millions of dollars in lost revenue. Vital power, cooling, and support systems must be running smoothly at all times to prevent information and profit loss. **Richardson Building Diagnostics, LLC** utilizes the latest infrared technology to ensure that all vital systems are operating properly.

Table 1: Uptime and Maximum Downtime

Uptime	Uptime	Maximum Downtime per Year
six nines	99.9999%	31.5 seconds
five nines	99.999%	5 minutes, 35 seconds
four nines	99.99%	52 minutes, 33 seconds
three nines	99.9%	8 hours, 46 minutes
two nines	99.0%	87 hours, 36 minutes
one nine	90.0%	36 days, 12 hours

Table 2: Data Center Downtime Losses

Industry Sector	$ Revenue / Hour
Energy	2,818,000
Telecom	2,066,000
Manufacturing	1,611,000
Finance	1,495,000
Information Technology	1,344,000
Insurance	1,202,000
Retail	1,107,000

In the commercial world, the economic impact of downtime at data centers is staggering. Predictive maintenance, particularly infrared surveys, can markedly affect the return on investment by increasing reliability of equipment and consistent availability. IT centers continually search for ways to increase server operations (operate more servers per square foot of floor space) and this requires efficient cooling systems to prevent dangerous overheating of equipment.

Infrared Thermography is being used for regular electrical switchgear evaluations, optimizing cooling systems and servers, and commissioning of all electrical equipment, including UPS modules, PDU (power distribution unit) equipment, and computer servers. Infrared surveys are increasingly becoming specified as a requirement before a new building will be turned over for use by its owner.

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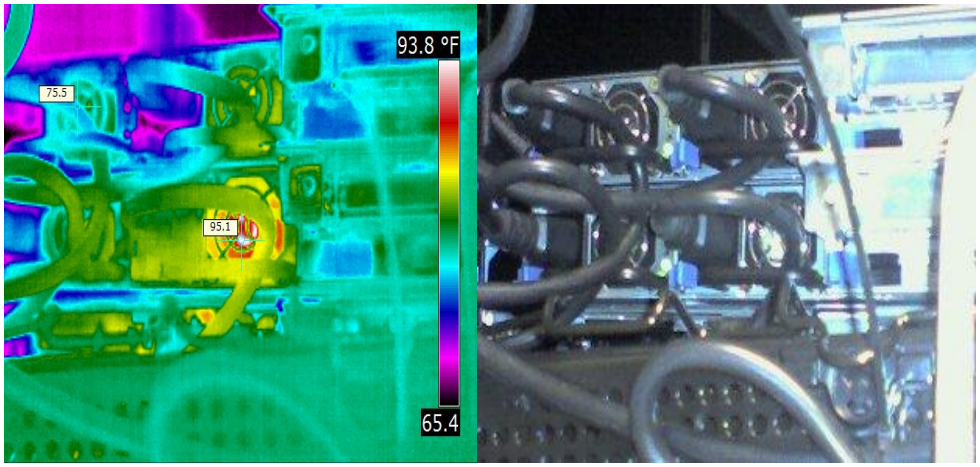
Example of a malfunctioning cooling fan on server:



THE BOTTOM LINE

Find and Fix Problems before its Too Late: Saving big money on roof repairs, retro-fits and replacements is just one of the many ways building owners and facility managers use our ITI Roof Survey to improve the return on their investment.

Save Money on Roof Repair and Maintenance: Infrared roof surveys find small problems before they become bigger and more costly. By targeting the problem areas, infrared technology helps you make the most cost-effective use of limited funds.

Acceptance Testing and Quality Control: For quality control purposes, many consultants, facility managers and owners are using post-construction infrared inspections to confirm the quality of materials and workmanship.

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