



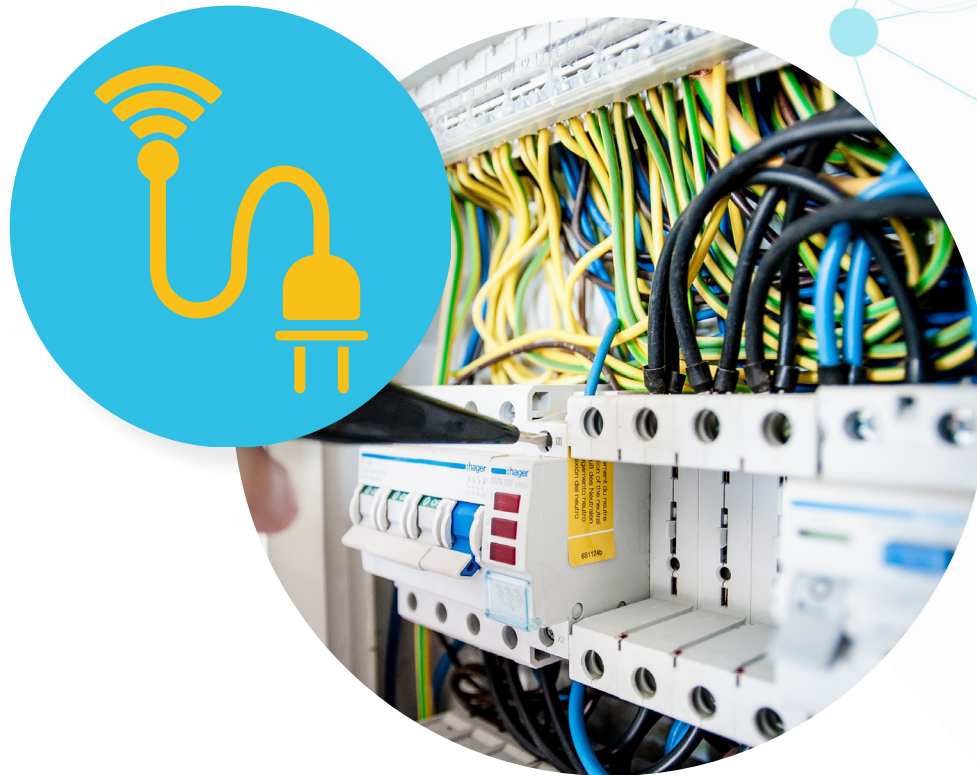
REAL-TIME DATA CENTER SOLUTIONS

HOW REAL-TIME DATA CENTER VISIBILITY DRIVES SAVINGS AND EFFICIENCY

An Exclusive RF Code ebook

ABSTRACT

In our always-on world, data center downtime is not an option. Unfortunately, inefficiency can mean that continuous availability often comes at an unnecessarily high price. Real-time data center monitoring and management enables you to maintain continuous availability while optimizing efficiency.



DATA CENTERS ARE EXPENSIVE TO BUILD ... AND TO RUN



Increasing capacity is a costly proposition:

data center space can cost **\$5-10 million per MW**, and while co-location is an option, prices currently range from **\$1,000-\$2,600 per rack each month** (not including electricity, bandwidth, staff, and migration costs)



Data centers use a lot of energy:

in some cases, up to **200 times the electricity of office space** – and over **three-quarters of data centers** are cooled far below ASHRAE's recommended levels



Power consumption is on the rise:

average density is currently **2-8 kW/rack**, but this is predicted to increase to **4-16 kW/rack in the next two years**

FEAR OF DOWNTIME DRIVES INEFFICIENCY



Avoiding downtime is the primary concern:

IT and facility managers rank energy efficiency **fourth in priority** behind adequate monitoring, availability, and change management. **This single-minded focus on disaster avoidance** often leads to over-provisioning, over-cooling, and other needlessly costly data center designs and policies



Most data centers rely on redundancy to ensure uptime:

server utilization in most data centers is **only 12-18%**, with up to 20% of the servers deployed in data centers performing **little to no work** – not a very efficient way to manage costly assets



Downtime can be financially disastrous:

the average cost is **\$690,204 per incident**. However, efficient environmental monitoring and asset management systems can deliver **CapEx and OpEx savings** while helping to ensure 24/7 availability

ENVIRONMENTAL MONITORING DRIVES DATA CENTER SAVINGS



ASHRAE recommends that data centers that used to operate at 55-65°F can now run at 80 or even 90°F:

IT and facility managers rank data centers can **save 2-5% in energy costs** for every **1°F increase** in server inlet air temperature



Visibility into the rack micro-environment:

enables **increased rack density** while **decreasing risk of downtime** due to increased temperatures



Benefits of monitoring extend beyond disaster avoidance:

improved SLA compliance **increases customer confidence**, environmental insights **feed facility-wide automation and efficiency via BMS integration**, and accurate data streamlines decision making and **increases data center availability, productivity and energy efficiency**

REAL-TIME ASSET MANAGEMENT PROTECTS YOUR DATA CENTER INVESTMENT



Real-time asset management means less time wasted in inventory reconciliation, fewer penalties associated with late lease returns, and smaller equipment replacement budgets:

accurate, automated asset management can save a typical enterprise data center \$700K or more each year



Continuous asset visibility delivers maximum ROI and protects against costly lapses in regulatory compliance:

failure to safeguard systems on which sensitive personal information is stored can easily result in millions of dollars in fines



Comprehensive, real-time asset lifecycle management provides the insight needed to accurately forecast capacity demands and data center growth: this allows data center operators to implement techniques and technologies that maintain continuous availability while optimizing efficiency



About RF Code

Founded in 1997, RF Code is based in Austin, Texas, with offices and partners around the world. Our automated, real-time asset management and environmental monitoring software platform eliminates the need for costly and error-prone manual processes. With our patented, wire-free sensors, open APIs, and real-time reporting capabilities, RF Code is easily integrated with existing IT, facilities, and business systems, creating mission critical value throughout the asset lifecycle, so you can save time and money and keep track of what really matters.

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