

Opinion of the Uptime Institute:

Using ITIL to Gain Data Center Efficiency

By Tony Ulichnie

The cost of energy is increasing at an unprecedented rate. Along with it, the cost of powering the infrastructure of a data center is also rising, to an estimated 20% combined annual growth rate (CAGR). Green house gases (GHG) and carbon footprints are being raised as issues in board rooms across the world. CIOs and data center managers must acknowledge that their data center may consume 20-40 times more power than conventional office buildings. Inevitably, the question of efficiency and reduced carbon footprint will cross their desk. But where does a CEO or data center manager start to deal with these issues? Are there any proven short cuts to get ahead of the impending audit or the possibility of government regulation? While technical and organizational answers to these questions are complicated and have multiple layers, there is a proven process formula with predictable results that can be applied to address these issues.

For more than 10 years the IT community has used Information Technology Infrastructure Library (ITIL) as a process framework to achieve and sustain high levels of application and systems availability. This framework is designed around the core processes of change, problem and configuration management. ITIL has a track record of success in multiple business verticals and may be easily adapted to the energy problems currently facing enterprise computing today.

Server technology is increasing in circuit density as well as in number of installs. Servers are increasing 16% annually to an estimated 43 million by 2010, while energy costs are increasing at 20% CAGR. These facts are causing a convergence of interests among IT and Facilities organizations as they seek to gain control over the efficiency of the data center. In response to the runaway growth of data center energy consumption, McKinsey & Company introduced its report, "Revolutionizing Data Center Efficiency- Key Analysis" at the April 2008 Uptime Institute annual symposium. According to the McKinsey report, two major contributors to data center inefficiency are "poor IT capacity management" and "lack of senior executive oversight". Both of these contributors to inefficiency may be addressed by applying ITIL best practices.

Configuration management is a major element of ITIL and may be the answer to overcoming "poor IT capacity management". Capacity planning, practiced under Configuration management, tracks unused or poorly used servers and either deinstalls or consolidates them in a virtualization effort to gain control of IT assets, reduce the carbon footprint and ultimately improve efficiency. Using ITIL, the process of mature capacity planning combined with asset tracking and meaningful predictive metrics can lighten

the burden of IT and Facilities by stretching the life of power and cooling systems in support of the data center. Close collaboration between IT and Facilities may postpone the purchase of a new UPS and switch gear. Delaying a major capital expense such as a UPS can mean better quarterly P&L numbers and gradual control of escalating data center expenses, placing your data center on the road to efficiency.

The other contributor to data center inefficiency addressed by ITIL principles is "lack of senior executive oversight". Among other actions to address this concern, The McKinsey report suggests organizational changes, e.g. creation of an energy czar and moving Facilities under the CIO. These moves create a model that has a single owner of both data center energy consumption and the carbon footprint. The ITIL principles of structured problem, change, and configuration management combined with performance metrics provide quantifiable reporting data for executive review and action. Operational capacity trending data and financial data combined with Facilities PUE or DCIE metrics may give the executive not only a sense of performance, but also a clear barometer of data center energy efficiency.

Although the ITIL framework was originally designed to apply to improving IT availability, the issues of data center efficiency regarding energy costs, GHG output and asset management have opened up new applications for proven ITIL principles. When applied to the issue of data center efficiency, ITIL can be an invaluable tool for coordinating Facilities, Finance, and IT to achieve and maintain profitability while "greening" the data center.

About the Author

Tony Ulichnie, A 25-year IT executive veteran of the evolution of IT and the data center, with certification in ITIL and Six Sigma, and a senior faculty member for the Uptime Institute, Tony Ulichnie brings first-hand senior-management knowledge of the IT asset configuration, utilization, and change management issues in the data center. As an IT executive, Tony worked extensively in the Financial industry where he was responsible for building three data centers. He also has significant executive experience in the outsourcing industry in which he built two data centers. He has also served as both Hardware Manager and Customer Engineer.

About the Uptime Institute, Inc.

Since 1993, the Uptime Institute (*Institute*) has been a respected provider of educational and consulting services for Facilities and Information Technology organizations interested in maximizing data center uptime. The *Institute* has pioneered numerous industry innovations, such as the Tier Classification System for data center availability, which serve as industry standards today.

The Institute's 100 global members of the Site Uptime Network[®] represent mostly Fortune 100 companies for whom site infrastructure availability is a serious concern. They collectively and interactively learn from one another as well as from Institute-facilitated conferences, site tours, benchmarking, best practices, and abnormal incident collection and analysis.

For the industry as a whole, the *Institute* publishes white papers, offers a Site Uptime Seminar Series and a Site Uptime Symposium and Data Center Design Charrette Series on critical uptime-related topics. The Institute also conducts sponsored research and product certifications for industry manufacturers. For users, the Institute certifies data center Tier level and site resiliency.



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