Supermicro Second Annual Green Data Center Report Finds Opportunity for Saving Millions in Energy Costs, and Reductions in E-Waste

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Survey Results Show 88% of Data Centers Are Not Green, and the Typical Enterprise Data Center Can Save Up to $38 Million in Energy Costs and 350 Tons of E-Waste Annually

SAN JOSE, Calif., Dec. 10, 2019 /PRNewswire/ -- **Super Micro Computer, Inc. (SMCI)**, a global leader in enterprise computing, storage, networking solutions, and green computing technology, today released its second annual Data Centers and the Environment report based on an industry survey of over 5,000 IT professionals. Results demonstrated again this year, the majority of data center leaders do not fully consider green initiatives for the growing build-out of data center infrastructures, increasing data center costs, and impacting the environment.

Supermicro conducts this annual survey to report on the state of the industry, assess data center equipment purchase considerations, and help data center leaders better quantify their decisions for the long-term environmental impact through energy savings and reduction in e-waste.

Key Findings:

Across the board, responses from IT experts from SMBs, large enterprises, and recognized companies showed that **most businesses (86%) don't consider the environmental impact of their facilities as an important factor** for their data centers:

- Data center leaders primarily noted Total Cost of Ownership and Return on Investment as their primary measures of success, with less than 15% responding that energy efficiency, corporate social responsibility, or environmental impact were key considerations for their facilities.
    - 22% of respondents noted "environmental considerations" were too expensive for them to be considered a priority for their company – indicating a significant lack of understanding of the ROI of green computing solutions.

Almost 9 out of 10 data centers are not designed for optimal Power Effectiveness, potentially **costing each data center more than $1.4M annually** based on national averages:

- Even with the advent of novel cooling techniques and new hardware that can handle higher operating temperatures, **companies are still moving towards *colder* ambient temperatures for their data centers** – compared to 2018, the number of businesses this year focused on keeping their facilities and servers below 24^{o}C increased by 13%, now consisting of over two thirds of respondents.
    - This is especially wasteful, since leveraging free air-cooling equipment designs running at higher than 26.5^{o}C enables data centers to decrease operating costs.
- Many companies are also operating their data centers at lower densities than necessary – with 71% of respondents noted their data centers run at power densities less than 19 kW per rack.
    - Utilizing multinode servers and operating at higher power densities would drastically improve energy requirements and decrease costs as well.

The primary means of handling outdated server hardware from data centers has worryingly changed since 2018. In 2019, **companies recycling their decommissioned hardware has dropped across the board**:

- The number of businesses partnering with a certified recycling company dropped by 14% from 2018 to 2019, and the number of companies reporting recycling the hardware themselves dropped by 5%.
    - With e-waste already contributing to 2% of trash and 70% of overall toxic waste in the US, a decrease in proper recycling for such large amounts of hardware indicates a concerning impact on the environment.
- Even worse, **about 1 in 10 of the largest enterprises with the most data center hardware are still essentially throwing away decommissioned equipment.**
    - 9% of these largest enterprises reported disposing of the hardware without relying on any kind of recycling.

Optimized hardware refresh cycles would reduce e-waste by over 80% and achieve 15% better performance while lowering acquisition costs by 44% – potentially reducing annual capital savings by $900k and resulting e-waste by 12 tons.

- The majority, 35% of businesses, planned to refresh server hardware every 2-3 years in 2018, while the majority in 2019 shifted to 40% planning to refresh server hardware every 4-5 years instead.

"The 2019 survey findings establish again that consideration of the environmental impact for data center equipment selection continues to be an IT industry challenge," said Charles Liang, President and CEO of Supermicro. "We are continuing our focus on Resource-Saving Architecture to help end-customers save both energy and hardware acquisition costs while reducing the environmental impact."

Supermicro's Resource-Saving architecture disaggregates the CPU and memory as well as other subsystems, so each resource can be refreshed independently, allowing data centers to reduce refresh cycle costs and their impact on the environment. When viewed over a two to four-year refresh cycle, Supermicro Resource-Saving servers deliver, on-average, higher-performing, and more-efficient servers at lower costs than traditional rip-and-replace models by allowing data centers to independently optimize adoption of new and improved technologies.

The second annual Supermicro Data Centers & the Environment report provides an overview of the major trends shaping IT infrastructure delivery and strategy. This year, the survey was conducted via email in October 2019. It includes responses from 1,362 data center operators and IT practitioners globally from enterprises, service providers, and SMBs and represents a comprehensive cross-section of key demographics including job function, data center geography, industry vertical, and size.

"San Jose-based Supermicro's global survey on green data centers reveals that most companies don't thoroughly consider power consumption and minimizing e-waste when choosing data center equipment," said Sam Liccardo, Mayor of the City of San Jose. "As a leading Silicon Valley company in innovation and sustainability, Supermicro has long championed green computing, and I invite the industry to learn more about its impacts and opportunities."

The data center industry has to make many improvements to be considered green. Choosing innovative data center equipment leveraging technology advancements can significantly impact the environment. For example, disaggregated server configurations can lead to significant refresh savings and the opportunity to rapidly take advantage of the latest server technologies to reduce refresh cycles.

Another consideration is the power effectiveness of data centers. High-efficiency, high-density servers—can reduce the amount of power required and the physical space needed. In addition, systems designed to support free-air cooling, which doesn't require computer room air conditioner (CRAC) equipment for cooling, can also reduce data center energy requirements.

To learn more about the report findings and Supermicro's Resource-Saving innovations and commitment to green computing, please visit www.supermicro.com/WeKeepITGreen.

For complete information on SuperServer® solutions from Supermicro, visit www.supermicro.com. Follow Supermicro on Facebook and Twitter to receive their latest news and announcements.

About Super Micro Computer, Inc.

Supermicro (SMCI), the leading innovator in high-performance, high-efficiency server technology is a premier provider of advanced server Building Block Solutions® for Data Center, Cloud Computing, Enterprise IT, Hadoop/Big Data, HPC and Embedded Systems worldwide. Supermicro is committed to protecting the environment through its "We Keep IT Green®" initiative and provides customers with the most energy-efficient, environmentally-friendly solutions available on the market.

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