

Recent Advancements in the Environmental Control of Data Centers

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This talk will focus on the thermal management and environmental control aspects of the problem. The talk will examine fundamental shifts that have occurred over the past 10 years regarding how data center environmental control systems are being designed, analyzed and managed and will provide examples of key inflection points. In particular, the talk will center around the following items: 1) The application of computational fluid dynamics to analyze the fluid mechanics and heat transfer within data centers; 2) The introduction of higher order metrics; 3) Distributed environmental control systems and ; 4) The formulation of computational workload placement policies based on data center environmental conditions.