

UNIVERSITY OF SOUTH FLORIDA

Major Research Area Paper Presentation

A Survey on Power Management Techniques for Oversubscription of Multi-Tenant Data Centers

by
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For the Ph.D. degree in Computer Science & Engineering

Power management for data centers has been extensively studied in the last decade. Most research has focused on owner-operated data centers with less focus on Multi-Tenant Data Centers (MTDC). In an MTDC, an operator owns the building and leases out space, power, and cooling to tenants to install their own IT equipment. MTDC presents new challenges for data center power management due to an inherent lack of coordination between the operator and tenants. In this presentation, we survey existing MTDC power management techniques for demand response programs, sustainability, and power hierarchy oversubscription. Power oversubscription is of particular interest as it can maximize resource utilization, increase operator profit, and reduce tenant costs. We also propose future research directions for prediction and control of power overload events in an oversubscribed MTDC.

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ENB 313

THE PUBLIC IS INVITED

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