OPEN POSSIBILITIES.

Transformational Improvements in Data Center Power Efficiency and Sustainability



Strategic Initiatives

Transformational Improvements in Data Center Power Efficiency and Sustainability

Tawfik Rahal-Arabi, Power and Performance Technologist, Micro-Watts Marcus Fontoura, Technical Fellow and CVP, Microsoft Zane Ball, CVP, Intel Lizhong Chen, Professor, Oregon State University





OPEN POSSIBILITIES.

Microsoft Sustainability Actions

•••

1. Carbon-aware decision making, as in supply chain selection, server decom, load placement, etc.

SERVER

- Power efficiency through oversubscription/statistical multiplexing and multi-availability
- Role of workload intelligence using ML to understand the workloads in other to do better resource management. Increasing utilization greatly helps with our sustainability goals.



Intel Sustainability Actions

- Move towards a circular economy while reducing carbon impact.
 - Co-leading OCP strategic workstream on component lifecycle that identifies best practices for circularity.
- Methods to extend the DC-SCM vision with contributions to improve modularity at scale.
 - With modularity, more components can exist for longer periods of time, amortizing the manufacturing carbon over a longer lifespan.
- Continued efforts to redefine power efficiency
 - Advanced packaging, 2nd gen EUV





Academic Research

- Move towards a circular economy while reducing carbon impact.
 - Co-leading OCP strategic workstream on component lifecycle that identifies best practices for circularity.
- Methods to extend the DC-SCM vision with contributions to improve modularity at scale.
 - With modularity, more components can exist for longer periods of time, amortizing the manufacturing carbon over a longer lifespan.
- Continued efforts to redefine power efficiency
 - Advanced packaging, 2nd gen EUV





List of Questions - WIP

- Move towards a circular economy while reducing carbon impact.
- Methods to extend the DC-SCM vision with contributions to improve modularity at scale.
- Continued efforts to redefine power efficiency



(remove this note before submitting your presentation)

- How to get involved in the Project/Sub-Project Community
- Timeline for Contribution Availability
- Timeline for Product/Facility Availability
- Link to Contribution DB/OCP Marketplace
- Where to find additional information (URL links)

[Example] Where to buy: https://www.opencompute.org/products

[Example] Project Wiki with latest specification: http://www.opencompute.org/wiki/Server/Mezz

[Example] Mailing list: http://lists.opencompute.org/mailman/listinfo/opencompute-mezz-card



OPEN POSSIBILITIES.

Open Discussion

