

Cloud Resource Management Team Report

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Cloud resource management is an area of mutual interest to the US and Middle East researchers. One aspect of managing the resources in a cloud environment is to control the mapping and scheduling of tasks onto the different cloud's servers with the goal of increasing the system's efficiency and optimizing its power consumption.

- There is already an active collaboration between Koc University and several European countries to develop mapping techniques that lead to server consolidation, and US researchers showed interest in joining this effort and expanding it to include frequency scaling schemes that reduce the power consumption through matching the computation speed of servers to the assigned load.
- Another aspect that is also of mutual interest is the management of the communication between the servers through the overlay of virtual topologies on top of the physical interconnection in order to match the communication demand of applications running on the cloud.
- A third aspect of common interest has to do with workload management across multiple cloud systems that are geographically dispersed, for the purposes of operational efficiency, and for creating an efficient, economically-sound marketplace for cloud resources.

A number of US and the Middle East participants have considerable experience in the area of multiprocessor interconnection networks and will apply this experience to the area of cloud and data center interconnection.