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An energy-efficient virtual machine placement and route scheduling scheme in data center networks

Ting Yang, Haibo Pen, Wei Li, Albert Y. Zomaya



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Highlights of the paper

An Energy-Efficient Virtual Machine Placement and Route Scheduling Scheme in Data Center Networks

- 1) We present a joint optimization energy-efficient approach Job-Aware VM Placement and Route Scheduling (JAVPRS) for data center networks.
- 2) Unlike previous approaches, we do not address the issue as a traditional QAP problem. Instead, we fully utilize VM migration technology and communication data flow consolidating technology to minimize the energy consumption and balance the communication load within the data center network.
- 3) JAVPRS produces better VM placement and data-flows routing based on the characteristic data flows and the latest status of the network devices.
- 4) Based on results from our extensive simulations, JAVPRS outperforms two well-known QAP algorithms in terms of less energy consumption and better network performance.

Sincerely yours,

Ting Yang
Linlin Wang
Wei Li
Albert Y. Zomaya

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