

Virtualized Cloud Data Center Networks: Issues in Resource Management.

This book discusses the characteristics of virtualized cloud networking, identifies the requirements of cloud network management, and illustrates the challenges in deploying virtual clusters in multi-tenant cloud data centers. The book also introduces network partitioning techniques to provide contention-free allocation, topology-invariant reallocation, and highly efficient resource utilization, based on the Fat-tree network structure.

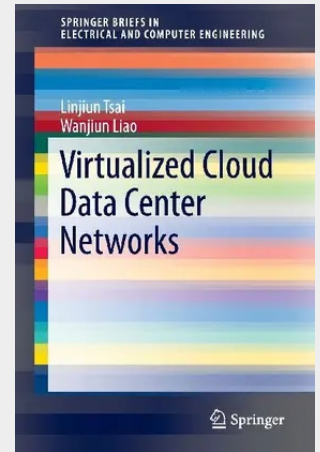
Managing cloud data center resources without considering resource contentions among different cloud services and dynamic resource demands adversely affects the performance of cloud services and reduces the resource utilization of cloud data centers. These challenges are mainly due to strict cluster topology requirements, resource contentions between uncooperative cloud services, and spatial/temporal data center resource fragmentation. Cloud data center network resource allocation/reallocation which cope well with such challenges will allow cloud services to be provisioned with predictable network performance, mitigate service performance degradation and even guarantee service level agreements.

Virtualized Cloud Data Center Networks: Issues in Resource Management tackles the challenges of managing cloud data center networks and introduces techniques to efficiently deploy large-scale distributed computing applications that require predictable performance in multi-tenant cloud data centers.

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