Economics of Cloud Security

Emergent Research Forum papers

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Abstract

One of the key concerns with cloud computing is security. Cloud security is a shared responsibility between the provider and users. The extent to which the cloud provider’s effort and users’ efforts influence the cloud security depends on the type of cloud service provided. The cloud provider would have less control over the security level, while users would have more control over the security level in an Infrastructure as a Service (IaaS) type than in a Software as a Service (SaaS) type. Our analysis focuses on the interplay between the parameters representing cloud type, security cost and loss from a breach. Our analysis shows that depending on the interactions, the cloud provider’s effort and users’ efforts may complement or substitute each other. Furthermore, users do not necessarily exert more effort under IaaS than under SaaS, and, users may decrease their own efforts even when their security costs decrease.

Keywords

Cloud Computing, Information Security