

Dependable and Resilient Cloud Computing

Lecturer

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Abstract

Recent years have seen a growing interest among users in the migration of their applications to the Cloud computing environments. However, due to high complexity, Cloud-based services often experience a large number of failures and security breaches, and consequently, impose numerous challenges on the dependability and resilience of users' applications. Unfortunately, current dependability and resilience solutions focus either on the infrastructure itself or on application analysis, but fail to consider the complex inter-dependencies between system components and application tasks. This aspect is highly crucial especially when Cloud environments are used, as it is increasingly considered nowadays, in critical applications.

This talk will discuss a user-centric, dependability- and resilience-driven framework that considers the following aspects:

- Deploying and protecting users' applications in the Cloud infrastructure so as to minimize their exposure to the vulnerabilities in the network. This allows users to run their applications in the Cloud in the most secure manner possible.
- Offering fault tolerance and resilience as a service to the users who need to deploy their applications in the Cloud. This approach allows an application to obtain required fault tolerance and resilience properties from a third party in a transparent manner, and increase its reliability and availability.