

## The A4Cloud Risk and Trust Model

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Abstract: Adequate trust and risk management are fundamental for governance in the cloud. Data controllers, processors, or more generally cloud customers must be aware of specific risks for business confidential, personal and other kinds of sensitive data subject to regulatory restrictions when using cloud services. We present a joint risk and trust model for cloud service chains. The model is based on historic data related not only security incidents but also performance records. Negative and positive performances are differentiated and the freshness of the historic data are taken into account in the model. It addresses uncertainty through probability distributions and static simulation. Numerical analysis by Monte-Carlo simulation is also provided for gaining an analytical insight into the model.