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To Trust or Not To Trust, that is the question

Trust is a central issue confronting men and women in contemporary society. In fact, the most difficult thing to achieve in this world is trust. It can take years to win and only a matter of seconds to lose it. This is also applicable in a computing environment, where users need to trust computing services to process and manage their data. This implies a broad spectrum of properties to be accomplished, such as Security, Privacy, Coherence, Isolation, Stability, Fairness, Transparency and Dependability.
Adaptive, Trustworthy, Manageable, Orchestrated, Secure Privacy-assuring Hybrid, Ecosystem for REsilient Cloud Computing1 (hereinafter "ATMOSPHERE") is a European-Brazilian collaboration project aiming at measuring and improving the different trustworthiness dimensions of data analytics applications running on the cloud. To achieve trustworthy cloud computing services on a federated environment, ATMOSPHERE focuses on providing four components: i) a dynamically reconfigurable hybrid federated VM and container platform, to provide isolation, high-availability, Quality of Service (QoS) and flexibility; ii) Trustworthy Distributed Data Management services that maximise privacy when accessing and processing sensitive data; iii) Trustworthy Distributed Data Processing services to build up and deploy adaptive applications for Data Analytics, providing high-level trustworthiness metrics for computing fairness and explainability properties; and iv) a Trustworthy monitoring and assessment platform, to compute trustworthiness measures from the metrics provided by the different layers.
In this lightning session, we will focus our discussion in the integration of the federated cloud platform with the Trustworthy monitoring and assessment platform, in order to provide isolation, stability and Quality of Service performance guarantees. The cloud platform will enable the dynamic reconfiguration of resource allocation to applications running on federated networks on an intercontinental shared pool, while the trustworthiness monitoring and assessment platform will provide quantitative scores regarding the trustworthiness of an application running on the ATMOSPHERE ecosystem.

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1 - ATMOSPHERE official website: www.atmosphere-eubrazil.eu

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