Editorial

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Biographical notes: Martin Gilje Jaatun is a Senior Scientist at SINTEF ICT, where he has been employed since 2004. His research interests include security in cloud computing and security of critical information infrastructures. He is an Associate Editor of the *Journal of Secure Software Engineering*, and a member of the editorial board of Springer's *Journal of Cloud Computing* and *Internetworking Indonesia*. He is the Vice Chairman of the Cloud Computing Association (cloudcom.org) and a senior member of the IEEE.

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In some respects, cloud computing can be seen as a natural extension of grid computing, where academic communities shared computing power among themselves, providing access to combined resources that surpassed anything one individual participant could muster on its own. Many say that the main paradigm shift between grid and cloud

computing lies in the business model – it is no longer a collaborative best-effort venture; cloud providers are serious businesses with paying customers.

The trans-border nature of cloud computing, where data and processes may be hosted in any number of datacentres spread around the globe, creates an ever greater need for service level agreements (SLAs) that cover more aspects than what has traditionally been considered in outsourcing contracts. With a longer provider chain, where provider A subcontracts services from Provider B, who in turn subcontracts from Provider C (and so on), security governance is one particular challenge which must be addressed, but also other contractual aspects are complicated by such a configuration.

This special issue contains extended versions of distinguished papers presented in the special session on Security Governance and SLAs in Cloud Computing (CloudSecGov) at the 2nd International Conference on Cloud Computing and Services Science (CLOSER 2012), held in Porto, Portugal, April 19, 2012.

The article 'Benchmarking cloud performance for service level agreement parameters' by Lee Gillam, Bin Li, and John O'Loughlin presents a method to measure and incorporate performance measures into cloud SLAs, based on large number of benchmarks experiments. Alba Amato, Loredana Liccardo, Massimiliano Rak and Salvatore Venticinque describe a tool for dynamic provisioning of IaaS resources that allows the user to negotiate the terms of a cloud service, independently of the different cloud provider technologies in their paper 'SLA-based negotiation and brokering of cloud resources'.

'A toolkit for automating compliance in cloud computing services' by Nick Papanikolaou, Siani Pearson, Marco Casassa Mont and Ryan K.L. Ko presents a software tool for automatic evaluation of whether a cloud provider's service terms are compliant with existing data protection laws and regulations, as well as relevant technical and business requirements. This is complemented by the article 'Expressing cloud security requirements for SLAs in deontic contract languages for cloud brokers' by Per Håkon Meland, Karin Bernsmed, Martin Gilje Jaatun, Humberto Nicolás Castejón and Astrid Undheim, which investigates to what degree it is possible to express security in a number of existing machine-readable contract languages.

Finally, Siani Pearson and Prodromos Tsiavos present a mechanism that increases the transparency of how user data is processed and stored in the cloud in their article 'Taking the Creative Commons beyond copyright: developing Smart Notices as user centric consent management systems for the cloud'. The mechanism achieves this by visualising and enabling the user to modify the service terms, in accordance to his own preferences.