

**Beniamino Di Martino**

***Semantics, patterns and Compiler techniques for Portable App development in multiple Cloud and Big Data platforms***

**Abstract**

Cloud vendor lock-in and interoperability gaps arise (among many reasons) when semantics of resources and services, and of Application Programming Interfaces is not shared. The same issue arises with Big Data platforms: different programming, deployment and execution models, many different Machine Learning Libraries and related APIs.

Standards and techniques borrowed from SOA and Semantic Web Services areas might help in gaining shared, machine readable description of Cloud and Big Data offerings (resources, Services at Platform and Application level, Libraries and their API groundings), thus allowing automatic discovery, matchmaking, and thus supporting selection, brokering, interoperability end composition of Cloud Services among multiple Clouds, and seamless programming of analytics on multiple BigData platforms.

This talk will in particular illustrate the outcomes of the EU funded projects mOSAIC (<http://www.mosaic-cloud.eu>) and TOREADOR (<http://www.toreador-project.eu>)

**Biosketch**

Full Professor of Computer Engineering at the University of Campania (Italy). Previously he was Researcher at University of Vienna (Austria).

He is author of 14 international books and more than 300 publications in international journals and conferences. He has been Coordinator of EU funded FP7-ICT Project mOSAIC, and participates to various international research projects with various leadership roles (among them five EC FP7 and H2020 projects). He is Editor / Associate Editor of eight international journals (among them IEEE Transactions on Cloud Computing – TCC - and Parallel and Distributed Systems - TPDS) and EB Member of several international journals. He is vice Chair of the IEEE CS Technical Committee on Scalable Computing. He is member of many Technical Committees, including: IEEE WG for the IEEE P3203 Standard on Cloud Interoperability, IEEE Intercloud Testbed Initiative, IEEE Technical Committees on Scalable Computing (TCSC), on Big Data (TCBD), on Data Engineering (TCDE), on Semantic Computing (TCSEM), on Services Computing (TCSVC), on Intelligent Informatics (TCII), on Pattern Analysis and Machine Intelligence (TCPAMI), on Software Engineering (TCSE), on Distributed Processing (TCDP), on Parallel Processing (TCPP), on Cloud Computing (TCCC), of Cloud Standards Customer Council, of OMG Cloud Working Group, of Cloud Computing Experts' Group of the European Commission. He is Chair of Nomination Committee for the "IEEE TCSC Award of Excellence in Scalable Computing" and member of Nomination Committee for the "IEEE TCSC Award for Medium Career Researchers".