Data Management in the Cloud

(conférence en anglais)

Mardi 18 octobre 2011 de 10h30 à 12h

Amphi Saint Priest
Campus Saint Priest
Montpellier Nord

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Un accueil petit-déjeuner sera servi à partir de 10h devant l‘amphithéâtre Saint Priest.

Abstract (résumé):

In this talk, we analyze the design choices that allowed modern scalable data management systems to achieve orders of magnitude higher levels of scalability compared to traditional databases. With this understanding, we highlight some design principles for data management systems that can be used to augment existing databases with new cloud features such as scalability, elasticity, and autonomy.

We then present two systems that leverage these principles. The first system, G-Store, provides transactional guarantees on data granules formed on-demand while being efficient and scalable.

The second system, ElasTraS, provides elastically scalable transaction processing using logically contained database partitions.

Finally, we will present two techniques for on-demand live database migration, a primitive operation critical to provide lightweight elasticity as a first class notion in the next generation of database systems. The first technique, Albatross, supports live migration in a multitenant database serving OLTP style workloads where the persistent database image is stored in network attached storage. The second technique, Zephyr, efficiently migrates live databases in a shared nothing transactional database architecture.

Amr El Abbadi is currently Professor and Chair of the Computer Science Department at the University of California, Santa Barbara. He received his B. Eng. in Computer Science from Alexandria University, Egypt, and received his Ph.D. in Computer Science from Cornell University in August 1987. Prof. El Abbadi is an ACM Fellow. He has served as a journal editor for several database journals, including, currently, The VLDB Journal. He has been Program Chair for multiple database and distributed systems conferences, most recently SIGSPATIAL GIS 2010 and ACM Symposium on Cloud Computing (SoCC) 2011. He has also served as a board member of the VLDB Endowment from 2002—2008. In 2007, Prof. El Abbadi received the UCSB Senate Outstanding Mentorship Award for his excellence in mentoring graduate students. He has published over 250 articles in databases and distributed systems.

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