Proposition de recherche doctorale

La montée en charge et la disponibilité des plateformes réparties M2M pour le support d’applications multimédia

Mots clés :
● Directeur de thèse: Eric Gressier-Soudan
● Co-encadrant(s): 
● Unité de recherche: Centre d’Étude et de Recherche en Informatique et Communications
● Ecole doctorale: École Doctorale Informatique, Télécommunications, Électronique de Paris
● Domaine scientifique principal: Divers

Résumé du projet de recherche (Langue 1)
The thesis consists of studying how to access/query large and heterogeneous multimedia data storages and flows, in order to implement distributed multimedia data analysis algorithms, such as image or sound processing algorithms. We will target such applications where the amount of data and the asynchronous arrival of data makes it extremely difficult, if not impossible, to use standard database techniques, especially with regard to the real-time constraint (soft real-time). Examples of such systems can be decisional systems using M2M dataflow and requiring a large amount of historical data, or needing to access/query large data warehouses for pattern or anomaly detection. It can also be some recommendation systems that would use a large amount of historical user profile data. Also, in some applications, the calculations required to seek or organize the data can be heavy ones, thus needing the use of distributed computation (e.g. cloud computing). The goal of this thesis will be to invent techniques, algorithms, data structures, or language improvements to help the applications that require real-time access to such data, in a scalable/elastic way. The PhD student will be involved in the MCUBE project’s real-world applications with such characteristics, so that the applicability of the work can be proven. An important challenge of this thesis it to invent a technique that can be used by industrials at relatively low cost.

Résumé du projet de recherche (Langue 2)
Passage à l’échelle Prise en compte des contraintes Temps Réel Architecture distribuée qui intègre Intergiciel pour le M2M et Cloud Computing Intégration d’approche de type web sémantique

Informations complémentaires (Langue 2)
Le sujet de thèse est attribué à M. Sylvain LEFEBVRE