IEEE Workshop on Service Discovery and Composition in Ubiquitous and Pervasive Environments

(SUPE'07)

Co-located with IEEE International Conference on Global Communications

(GLOBECOM'07)

26-30 November 2007, Washington, DC, USA

Aims and Scope

Ubiquitous and Pervasive Computing (UPC) are new paradigms with a goal to provide computing and communication services all the time and everywhere. Automatic service composition in ubiquitous and pervasive environments requires dealing with several research issues such as service matching and selection, coordination and management, scalability, fault tolerance, and adaptiveness to users' contexts and network conditions. The service matching and selection is the first step in creating any composite service and requires a service discovery system. The discovery system should be scalable across large networks and adaptable to dynamic changes especially when services dynamically join and leave the network. Service coordination and management is the second issue to be addressed in automatic service composition. Composition platforms must have one or more brokers that coordinate and manage the different services involved in the composition. The problem of coordination and management becomes difficult when the brokers are distributed across the network and poses a scalability problem, especially when numerous users are concurrently making composite service requests. Since a composite service is dependent on many distributed elementary services, fault tolerance is another important issue to be included in service composition platforms in order to ensure its proper functioning. The platform should be able to detect and restore it. It should be noted also that in UPC environments, where services are coming up and going down frequently, the service composition platform should be able to adapt the composition by taking maximum advantage of the available services. This increases the composite service availability in dynamically changing networks.

This workshop is intended to serve as a forum and bring together the researchers and engineers in both academia and industry to exchange ideas, share experiences, and report original works about all aspects of service discovery and composition in ubiquitous and pervasive environments. The main purpose is to promote discussions of research and relevant activities in the design of architectures, algorithms, and applications for UPC environments

List of topics

The topics of interest for SUPE'2007 workshop include but are not limited to:

- Wireless ad hoc/Sensor network services and protocols for ubiquitous and pervasive systems
- Sensor and RFID technologies in ubiquitous and pervasive systems
- Positioning and tracking technologies
- Service architectures, protocols and deployment environments
- Grid services, Service-oriented architecture, and Web services
- Service discovery and composition approaches
- Ontology-based approaches for service composition
- AI planning-based approaches for service composition
- Workflow-based approaches for service composition
- Learning-based approaches for service composition
- Adaptive services to client paradigm
- Spontaneous and ad hoc service emergence paradigm
- User and context self-awareness
- Peer-to-peer based protocols for service discovery and composition
- Performance evaluation and analysis for service discovery and composition approaches
- Service-oriented Ubiquitous and Pervasive Grid
- Service Deployment in Ubiquitous and Pervasive grid environments

- Bio-inspired middleware for Ubiquitous, Pervasive and Grid Applications
- Agent-Oriented Software Engineering support for Ubiquitous and Pervasive Computing Grid
- Methodologies and techniques for agent-based web service discovery and composition systems
- Specification, validation and verification of agent-based systems for Ubiquitous and Pervasive Computing Grid
- Mobile agent approaches for service discovery and composition
- Adaptive management, collaboration, monitoring and control of Ubiquitous, Pervasive, and Grid services
- Service provisioning and Quality of Service for Ubiquitous, Pervasive, and Grid services
- Service level agreement negotiation and contracting
- Security issues for service discovery and composition systems
- Ubiquitous, Pervasive, Autonomic, and Grid applications

Paper Submission

Authors are invited to submit original manuscripts, which should be written in English and with a very precise and concise presentation of no more than 8 pages in IEEE double-column format. Authors are invited to send their manuscripts as an attachment (PDF or PS format) by email to the workshop chairs at bakhouya@gwu.edu or gaber@utbm.fr or maxime.wack@utbm.fr. Submission implies the willingness of at least one of the authors to register and present the paper. Accepted papers will be available on IEEExplore.

For further information, check out the Workshop's home page at http://hpcl.seas.gwu.edu/~bakhouya/SUPE'07.htm