Sécurité par aspects pour architectures basées sur des services

Mots clés :

- Directeur de thèse : yves ROUDIER
- Co-encadrant(s) :
- Unité de recherche : Laboratoire de recherche d'EURECOM
- Ecole doctorale : Ecole Doctorale Informatique, Télécommunications, Électronique de Paris
- Domaine scientifique principal : Divers

Résumé du projet de recherche (Langue 1)

constitue a major architectural style for large?scale infrastructurescross?boundary functionalities are essential to such compositions: Functionalities that span administrative domains, such as security domains that are governed by Functionalities that span different technological domains, e.g., service infrastructures for fullyproblem of crosscutting, that is, functionalities that are scattered and tangled over large parts of the architectureAspect?Oriented Software Development [Aks04] is an 2.1. SOA Service?oriented architectures (SOAs) are considered as advanced component?based architectures for the construction of distributed systems. A service is a software application that can be located over a network, and whose interfaces and bindings can be defined, described and discovered by using standardized access means and formats. Services support direct interactions with other software agents using message exchanges over the network via well?defined protocols. Service computations are composed to implement processes, whose specification is done using dedicated workflow languages. Web Services are a concrete realization of a SOA, which uses XML artifacts and Internet?based protocols [WS04, WS05]. The Business Process Execution Language for Web Services (BPEL) ([WS05, part VII] is a de facto standard for expressing Web Service compositions. The difference between the SOA approach and traditional approaches using conventional middleware lies in the looser coupling between the different parts of the distributed system specified. Another key difference is the use of standard and uniform formats and protocols. Many efforts have been devoted to the formalization and the reasoning upon processes, as exemplified by the proceedings of the international workshop "Web Services and Formal Methods" [WSFM05?07]. More specifically, different formalisms have been applied to BPEL: Petri nets [BPEL?PN05], Spin, a model checker [SPIN04, WSAT04], process algebras, like FSP ("Finite State Process") [FSP03], or CCS ("Calculus of Communicating Systems") [CCS04], for example. In a SOA, there exist complex interactions among functional, management, and infrastructure interfaces. Aspect Orientation approaches have been proposed to solve this issue in the context of existing orchestration services for SOAs (e.g., Padus [BVJ06] and AO4BPEL [CM07]). Similarly, the QoS4BPEL approach [BRL08] eases the QoS management in service compositions by the specification of QoS constraints defined using aspects that result in the modification of BPEL compositions.

Résumé du projet de recherche (Langue 2)

constitute a major architectural style for large?scale infrastructurescross?boundary functionalities are essential to such compositions: Functionalities that span administrative domains, such as security domains that are governed by Functionalities that span different technological domains, e.g., service infrastructures for fullyproblem of crosscutting, that is, functionalities that are scattered and tangled over large parts of the architectureAspect?Oriented Software Development [Aks04] is an 2.1. SOA Service?oriented architectures (SOAs) are considered as advanced component?based architectures for the construction of distributed systems. A service is a software application that can be located over a network, and whose interfaces and bindings can be defined, described and discovered by using standardized access means and formats. Services support direct interactions with other software agents using message exchanges over the network via well?defined protocols. Service computations are composed to implement processes, whose specification is done using dedicated workflow languages. Web Services are a concrete realization of a SOA, which uses XML artifacts and Internet?based protocols [WS04, WS05]. The Business Process Execution Language for Web Services (BPEL) ([WS05, part VII] is a de facto standard for expressing Web Service compositions. The difference between the SOA approach and traditional approaches using conventional middleware lies in the looser coupling between the different parts of the distributed system specified. Another key difference is the use of standard and uniform formats and protocols. Many efforts have been devoted to the formalization and the reasoning upon processes, as exemplified by the proceedings of the international workshop "Web Services and Formal Methods" [WSFM05?07]. More specifically, different formalisms have been applied to BPEL: Petri nets [BPEL?PN05], Spin, a model checker [SPIN04, WSAT04], process algebras, like FSP ("Finite State Process") [FSP03], or CCS ("Calculus of Communicating Systems") [CCS04], for example. In a SOA, there exist complex interactions among functional, management, and infrastructure interfaces. Aspect Orientation approaches have been proposed to solve this issue in the context of existing orchestration services for SOAs (e.g., Padus [BVJ06] and AO4BPEL [CM07]). Similarly, the QoS4BPEL approach [BRL08] eases the QoS management in service compositions by the specification of QoS constraints defined using aspects that result in the modification of BPEL compositions.