ABSTRACT

Extending the applications of SOA (Service-Oriented Architecture) to embedded/mobile service systems requires the asynchronous and lightweight messaging. However, conventional SOA focuses on the synchronous and heavyweight messaging such as SOAP. Furthermore, the lightweight messaging is diverse. Designing lightweight SOA, a class of SOA based on the lightweight messaging, is complicated. To accommodate the complexity of designing lightweight SOA, we propose ABAP (Attribute-Based Architecture Pattern), a set of architecture patterns of lightweight SOA and mode-based development method of ABAP by focusing on the attributes of the structure and behavior of lightweight SOA. ABAP enables to systematically design lightweight SOA with model and patterns. We demonstrate the feasibility of the proposed method with an example.


