Workshop on Middleware Support for Pervasive Computing
(PerWare ’05)

Message from the Workshop Co-Chairs

Context-awareness, dynamism, and heterogeneity are some of the properties that differentiate pervasive computing from traditional distributed systems. Most traditional distributed systems are unaware of context, are static, and are composed of homogeneous devices. As a result, the assumptions underlying traditional middleware infrastructures differ from the ones for pervasive computing. In a pervasive computing environment, issues such as mobility, disconnection, and dynamic introduction and removal of devices, and merging of the physical environment with the computational infrastructure are common and affect the underlying middleware infrastructure. Furthermore, different devices might be connected to different networks, with different latency and bandwidth. As a result, the middleware must provide mechanisms for handling disconnection, addressing fault tolerance, and adapting to a number of issues related to diversity including heterogeneous device resources. The scale of pervasive computing in terms of the number of devices and services, combined with the lack of a single system administrator, the associated dynamism, and frequent failures requires middleware services capable of evolving and re-organizing themselves.

The goal of this workshop is to address the issues related to the design and implementation of middleware services for pervasive computing. The workshop focuses on the challenges associated with pervasive computing and identifies common paradigms and design decisions that affect most middleware designers. The aim is to leverage the success of last year’s workshop, foster additional discussions, and bring together researchers in the field of middleware for pervasive computing to discuss new trends for pervasive computing middleware.

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