A quality model for e-Service based multichannel adaptive information systems

Carlo Marchetti
Universita di Roma "La Sapienza" – Dipartimento di Informatica e Sistemistica
via Salaria 113, I-00198 Roma, Italy
carlo.marchetti@dis.uniroma1.it

Barbara Pernici, Pierluigi Plebani
Politecnico di Milano – Dipartimento di Elettronica e Informazione
piazza L. da Vinci 32, I-20133 Milano, Italy
[pernici,plebani]@elet.polimi.it

Abstract

In a multichannel information system users can access the same service through different channels. At a high level of abstraction, "channel" examples are: a simple PC connected to the service provider through the Internet, a PDA connected through a wireless LAN, a SmartPhone exploiting UMTS and a private backbone. Within an adaptive multichannel information system, the system is also capable of tuning itself according to the user needs, underlying net-work and computing infrastructure.
We present a novel quality model for multi-channel e-Services and we propose adaptation strategies that allow describing and enforcing QoS aspects, respectively. In particular the quality model, which can be viewed as an ex-tension of existing proposals for single-channel system, allows classifying resources of a multichannel information systems, their properties related to non-functional quality related aspects, and defines the role of the service provider as a proposer of service levels, and of the user as a selector of the adequate service levels.