

Call for Papers
Special Issue on ‘Pervasive Management’
International Journal of Pervasive Computing and Communications (JPCC)

The explosive growth of the Internet, the proliferation of mobile networks and the increasing difficulty in managing multi-vendor environments and the services that they provide have altered forever the dynamics of the information and communications technology industry, the expectations of its customers and the business models under which it operates. Moreover, pervasive computing and communications services offer the promise of dynamic integration of embedded computing resources, information appliances, and multi-modal sensors as well as traditional computers, to empower people to perform tasks efficiently or to perform tasks automatically on users’ behalf. However, the management of such pervasive communications presents significant challenges for successful delivery of highly adaptive services across heterogeneous, ad hoc networks, mobile networks, middleware, applications and devices.

Today’s management architectures and systems are struggling to cope with the complexity, heterogeneity and dynamic adaptivity required by the pervasive computing vision. New paradigms, models and technology need to be developed to support such network adaptivity and dynamic management of the computing infrastructure and their applications.

Managing pervasive computing environments confront the demanding requirements that will soon dominate broader management challenges including managing user centric services, extreme distribution, extensive systems and network heterogeneity, ad hoc formation and disassociation of systems and services, and intelligent, autonomic support for user centric applications. Furthermore, from an information and knowledge viewpoint, issue of context awareness, capture, (semantic) interoperability and scalability are key challenges of such environments.

To address these issues, new and innovative management solutions need to be realized. Such approaches need to support greater levels of autonomy within the management of systems, services and networks. Aspects such as ‘self’ and ‘autonomic’ management are important aspects of such future systems. However such autonomic management needs to be informed by and operate within the scope of business, operational and environmental constraints and policies. This special issue of JPCC will contribute to the theoretic, technological and organizational challenges in *managing* pervasive computing, communications environments and application services which they support.

Topics of interest for the special issue include, but are not limited to:

- Formal or disciplined approaches to pervasive management
- Modelling techniques, tools and methodologies for pervasive management
- Semantics of management models and expressiveness of different management modelling approaches
- Ontology-based approaches to pervasive management
- Policy Based Management for pervasive environments
- Autonomous & autonomic pervasive systems
- Management of smart spaces
- Distribution and structuring of management
- Issues of imperfect contextual information, including ambiguity and incompleteness, and related to temporal and spatial information
- Scalability and integration in pervasive environments
- Interoperability across heterogeneous management services
- Evolution of management models and versioning issues
- Experiences with using management models applied to ubiquitous computing applications
- Trust and Security Management in pervasive computing environment

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Submission Deadline:

Title and planning abstract: immediately
Full paper: 2nd October 2005

Submission Requirements and Instructions:

Please send Abstracts (ASCII text), Papers (PDF format) and requests to: submission-pm@tssg.org

Full Papers should be formatted in 10 point, 2 columns, single lines, not exceeding 15 pages, as PDF.

JPCC - International Journal of Pervasive Computing and Communications <http://www.troubador.co.uk/jpcc>
The JPCC is a refereed international journal, published as four issues per year, providing an international premier channel to report, discuss and exchange experimental or theoretical results, novel algorithms, design methodology, work-in-progress, experience, case studies, and trend-setting ideas in the emerging field of pervasive computing and communications.

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