

## Call for Papers



### Special issue on Autonomic Communication

The purpose of this special issue is to give an overview on the state-of-the art and the latest results in Autonomic Communication (AC) - a new communication paradigm to assist the evolution of communication networks towards functional adaptability, extensibility and resilience to a wide range of possible faults and attacks.. Special emphasis is given on the grounding principles to achieve purposeful behavior on top of self-organization (including self-management, self-healing, self-awareness, etc.).

Papers are solicited that study network element's autonomic behavior exposed by innovative (cross-layer optimized, context-aware, and securely programmable) protocol stack in its interaction with numerous often-dynamic network groups and communities. The goals are to understand how autonomic behaviors are learned, influenced or changed, and how, in turn, these affect other elements, groups and the network.

The self-organized Internet will be able to sense its environment, to perceive these changes and to understand the meaning of these changes, thus facilitating new ways to perform network control, management, middle box communication, service creation, etc. This will be based on universal and fine-grained multiplexing of numerous policies, rules and events that are done autonomously but facilitate desired behavior of groups of network elements. Though the primary application domain is the Internet, papers addressing autonomic communication principles for mission critical distributed systems are also welcome.

#### Areas of interest include, but are not limited to:

- Theoretical foundations for network autonomies
- Tools and techniques for designing, analyzing and building autonomic networks and systems
- Network monitoring and measurements for self-aware networks and systems
- Adaptive security and safety mechanisms for self-protection and self-healing
- Advanced information processing techniques for autonomic networking and self-organization, in particular statistical and optimization techniques, policy-based techniques, context-awareness and in-network context processing
- Advanced algorithms from control theory, machine learning, knowledge-based and goal-driven role-based mechanisms, also bio-inspired
- Models suitable for autonomic networking, including models from related disciplines such as models for automation and control, models of biological systems, or models of economic systems
- Languages and environments for development and secure programming of autonomic communications systems
- Applications and example scenarios
- Human interaction with autonomic networks and systems

#### Submission Instructions:

Original manuscripts not more than 30000 characters in size, in English, formatted as explained at the URL below can be submitted to one of the Guest Editors in PDF.

#### Important deadlines:

Papers: 14.03.05      Notification: 06.06.05      CRC: 29.08.05      Journal: 12. 2005

#### Guest Editors:

Prof. Georg Carle	University of Tübingen	carle@informatik.uni-tuebingen.de
Dr. Mikael Salaun	France Telecom	mikael.salaun@francetelecom.com
Dr. Mikhail Smirnov	Fraunhofer FOKUS	smirnow@fokus.fraunhofer.de