Call for Papers for a Special Section on

Emerging Software Technologies for Internet-Based Systems: Internetware and DevOps

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ACM Transactions on Internet Technology

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The open, dynamic, and constantly changing nature of Internet-based systems poses special challenges for software technologies. Unlike traditional software systems, Internet-centered software systems need to be autonomous, cooperative, situational, evolvable, emergent, and trustworthy. To cope with these characteristics, emerging software technologies are attracting attention from the research community such as *Internetware* (focusing on software paradigms) and *DevOps* (focusing on software processes, culture, and methodologies). Internetware is a new software paradigm that can model the above characteristics of Internet-centered software systems, where the software is architected like the Internet, developed with the Internet, operated on the Internet, and provided as services via the Internet. DevOps aims at increasing the frequency and speed of bringing changes from development into production, usually achieved by new organizational structures and processes with a high degree of automation (such as continuous deployment to production and feedback to developers).

We invite high-quality submissions for a special section on the concepts and principles underlying emerging software technologies for Internet computing. We especially welcome novel contributions in (but not limited to) Internetware and DevOps. Subthemes and topics of high interest, all to be approached from and emphasizing a software engineering perspective, include:

Paradigms
- Programming Models and Languages
- Software Architecture
- Runtime Systems
- Quality Assurance
- Collaboration and Teamwork
- Collective Intelligence

Processes
- Process Automation
- Process Interactions
- Process Improvement
- Problem Diagnosis
- Test-Driven Operations
- Best Practices and Patterns

Challenges
- Dependability
- Trust
- Privacy
- Security
- Governance

Applications
- Big Data Analytics
- Cloud Computing
- Service Computing
- Social Computing
- Internet of Things
- Cyber-Physical Systems
- Socio-Technical Systems
- Software-Defined Infrastructures