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M. Günter, *Customer-based IP Service Monitoring with Mobile Software Agents, Whitestein Series in Software Agent Technologies, Birkhäuser, Basel, 2002, 160 pp., EUR 27,10, ISBN 3-7643-6917-5*

Software agents are software artefacts with specific properties, which usually include: autonomy (the agent is a software application able to perform autonomous activities), mobility (the agents are mobile agents (MA) that can autonomously move through a computer network) and cloning (the agent can produce its new instances). Further properties can be associated with the agent intelligence in the sense of artificial intelligence, and a basic precondition for this is the ability of agents to build autonomously their communication, but such properties are not the topics of this book. The author describes in detail the implementation of MA able to monitor the behaviour and effectiveness of services of nodes of the network, related to requirements of a particular user of the network. The implementation of MA and the supporting infrastructure, including the security issues, are also discussed in detail. The implemented mobile agents can monitor aspects of the network behaviour that interest a user.

The book contains results of experiments measuring various network properties (such as one-way delay, delay variation, round-trip times and bottleneck bandwidth) and the overhead connected with the agent activities. In the final chapter, the author mentions several similar related projects, such as Internet2 Initiative, Qbone, and related IP measurement methodologies, and proposes ways of applying his MA here. He also discusses the applications of his systems in network management and formulates several open problems. The book does not indicate whether the developed system has been used in real-life long-term mass service practice. The bibliography contains more than 150 items.

The book is an excerpt from the author's Ph.D. thesis *Management of Multi-Provider Internet Services with Software Agents*, published in July 2001. It is available, with the developed source code, at <http://www.iam.unibe.ch/~mgunter/phd.html>. (jk)



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