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# Introducing application-level replication and naming into today's Web

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### Abstract

Because of its enormous success, the World-Wide Web created many problems within the Internet, most of them due to its huge bandwidth requirements. Additional applications using the Web's infrastructure for distributed computing (see, e.g., [5]), even further increase network load. In this paper, we are presenting a comprehensive application-level approach to solving the Web-induced bandwidth and latency problems within the Internet while staying fully compatible with the current mechanisms of the World-Wide Web.

Our approach is based on automated replication schemes and complementary name services. In this paper, we are going to introduce these two concepts, and explain the many advantages they bring not only to every Web user but also to the various network and service providers currently struggling to keep up with rising user demands. In addition to an abstract presentation of this approach, we are also highlighting the

addition to an abstract presentation of this approach, we are also highlighting the concepts of our freely available implementation.



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## Keywords

Replication; Name services; WLIS; Failure-tolerance; Load balancing; Application-level routing

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networking technology.

**Peter Sturm** is a member of the system software group at the University of Kaiserslautern since 1987. He received his diploma (1987) and Ph.D. (1993) both in computer science. His current research interests include distributed operating systems and applications, user interface design and software engineering.

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