

**Montresor, Alberto; Meling, Hein; Babaoğlu, Özalp**

**Towards adaptive, resilient and self-organizing peer-to-peer systems.** (English) [Zbl 1049.68816](#)  
Gregori, Enrico (ed.) et al., Web engineering and Peer-to-Peer computing. NETWORKING 2002 workshops, Pisa, Italy, May 19–24, 2002. Revised papers. Berlin: Springer (ISBN 3-540-44177-8). Lect. Notes Comput. Sci. 2376, 300-305 (2002).

Summary: Peer-to-peer (P2P) systems are characterized by decentralized control, large scale and extreme dynamism of their operating environment. Developing applications that can cope with these characteristics requires a paradigm shift, placing adaptation, resilience and self-organization as primary concerns. In this note, we argue that complex adaptive systems (CAS), which have been used to explain certain biological, social and economical phenomena, can be the basis of a programming paradigm for P2P applications. In order to pursue this idea, we are developing Anthill, a framework to support the design, implementation and evaluation of P2P applications based on ideas such as multi-agent and evolutionary programming borrowed from CAS.

For the entire collection see [\[Zbl 0997.68661\]](#).

**MSC:**

[68U99](#) Computing methodologies and applications  
[68M10](#) Network design and communication in computer systems

Cited in **2** Documents

**Full Text:** [Link](#)