Studying the Concept of Survivability

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Abstract

Survivability represents the capability of a system to fulfill its mission in a timely manner despite intrusions, failures or accidents. This paper discusses the need for and importance of survivability and examines the characteristics that differentiate survivability from other software quality attributes and nonfunctional properties of systems. It introduces emergent algorithms as an approach to problem solving in unbounded networks and suggests a methodology for their development. Emergent algorithms are philosophically and methodologically different from traditional approaches. A strategy for the development of high-performance solutions using emergent algorithms is illustrated in outline form for a problem in Internet routing.

Keywords: survivability, emergent algorithms, computer networks

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