Preface

The increasing complexity of the current world can be observed each day. Sustainable development for example consists of economical and social systems management within natural environment. The understanding of the whole leads to what we call territorial intelligence. The way of modelling these complex systems is often based on interactive networks, dealing with the interconnection between all of the system components. Decision making on this complex world, need tools able to detect and manage emergent organizations through these networks. Distributed Artificial Intelligence (DAI) is the adapted conceptual trend which allows the proposal of some relevant solutions by relying on social and physical sciences models exhibited and observed in nature (e.g. ant colonies, molecular crystallisation, etc.). In this search and management of emerging organization, swarm intelligence algorithms proved to be popular and effective methods to use. On the technological front, the increasing number of robotic systems, advances in nano technology, and the sheer complexity of modern enterprise systems, especially those boosting high degree of autonomy, makes the development of swarm intelligence timely and needed.

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