CASCADAS

Component-ware for Autonomic Situation-aware Communications, and Dynamically Adaptable Services (2006 – 2008)

The project CASCADAS has delivered, as main results of the project, a prototype of a framework for autonomic communication services based on
an innovative autonomic component (the “ACE”), integrating advanced autonomic tools, relying on a flexible interaction protocols, and exploiting a sort of knowledge plane (i.e., the so called “knowledge networks”) to help components become situation-aware.

ASCENS will definitely exploit the CASCADAS experience, yet it will try to extend and generalize upon the ACE model, to make it more dynamic and capable of self-expressing dynamic adaptation patterns. Also, the knowledge management mechanism of ASCENS will leverage the simple algorithms provided by CASCADAS in its knowledge networks, towards enabling higher levels of context-awareness. Last but not least, ASCENS will also tackle the issues of self-awareness from a rigorous formal viewpoint that CASCADAS mostly disregarded.

CASCADAS website

BIONETS

BIOlogically inspired NETwork and Services (2006 – 2009)

The project BIONETS investigates innovative bio-inspired algorithms for autonomic communication services in modern networked scenario and applications (e.g., mobile and pervasive computing), and some of the algorithmic solutions for adaptive self-organization provided by it can be of some use in ASCENS. Yet, ASCENS has a different scope than that of BIONETS, and it is more aimed at a new foundational approach for software intensive systems rather than for autonomic communication scenarios. Also, ASCENS intends to focus also on formal methods and on a larger variety of adaptation mechanisms than bio-inspired self-organization only.

BIONETS website