

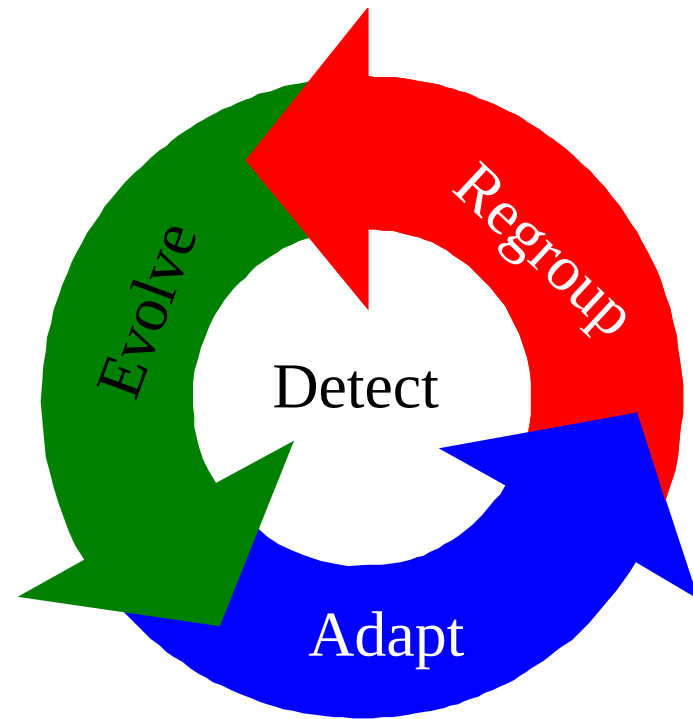
Detect, Adapt, Regroup, Evolve (DARE)

An Adaptive Consistency Management Framework for
Information Agents

Research Problem

Support Adaptive Cooperation Between Distributed, Autonomous Information Agent Collectives

- Information consistency issues of rapidly evolving collectives require **Adaptive Cooperation**. Traditional coordination techniques do not work
- Regrouping is a key mechanism for collectives to interact with each other
- Distributed simulation support is key to detection of variance
- Need to separate local consistency (adaptation) from global consistency (evolution)



Technical Goals

- Adaptive Cooperation
 - Dependency management + negotiation
 - Notification + negotiation
 - Negotiation + Cost function plug-ins
- Detect
 - Everything is a first class, self descriptive object in XML/RDF
 - Profiling support to get distributed coverage reports
 - Ability to conduct simulations by assuming a transducer architecture
- Regroup
 - Sharing of objectives
 - Collective membership changes
- Evolve
 - Nested hierarchies of collectives
 - Dynamic clustering of hierarchy members
 - Clustering + Cost function plug-ins

Project Relationships

- All Java Dependency and Notification Framework - A4 (Crystaliz, Inc.)
- Human negotiation tool - A/NT (USC/ISI)
- CAMERA - Cooperation and Negotiation Framework - US/ISI + Crystaliz, Inc.

Project Status

- First rev. of Dependency and Notification Framework ready
- First rev. of human negotiation tool ready
- Transducer based agent language in design stages