

REAL-TIME RESPONSIVENESS has become the crucial factor for success in modern business. Being aware of changes in the real-time, companies are able to react promptly on emerging conflict situations or potential business opportunities, for instance:

- Energy consumers can adjust their energy consumption based on current (real-time) prices
- Health professionals can react on the real-time changes in the medical status of their patients
- Logistics/ transportation companies can change the execution of their processes based on real-time traffic information

Complex Event Processing (CEP) is underlying all these processes. It is about a timely (or in head of time) recognition of the situations of interest and about the most appropriate reactions.

CEP is a process, consisting of:

- discovering and modeling the situations of interest
- efficiently (near real-time) processing of huge numbers of events
- detecting and predicting the situations of interest
- contextualization of detected situations in order to find the best possible reaction

FZI has developed its own CEP solution: intelligent Complex Event Processing (iCEP)

FZI OFFERS:

- feasibility studies about the business value of introducing CEP solutions in a particular domain
- conceptualization and realization of CEP projects, based on iCEP framework and/or assessment of other commercial standards and tools
- research related to innovative applications of CEP technology

FZI EXPERIENCE:

FZI plays a leading role in several EU-funded research projects in the CEP domain.

FZI has performed several CEP projects in the industry (energy, transportation, financial domain).

We are one of the founding members of EPTS (Event Processing Technical Society), the primary organization for the promotion of CEP research and applications.

iCEP research is performed within the research division Information Process Engineering (IPE) at FZI.

RESEARCH DIVISION INFORMATION PROCESS ENGINEERING

IPE investigates and develops concepts and solutions for efficient information and knowledge processing and hence enables knowledge-based service businesses for agile enterprises. The core competencies are excellent technical know-how of current software architecture and infrastructure paradigms, profound competence in Web 2.0/3.0 and semantic technologies as well as broad skills in evaluating and designing business and incentive models.

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iCEP – INTELLIGENT COMPLEX EVENT PROCESSING

Real-time awareness for dynamic and adaptive business



SOLUTION

iCEP STUDIO

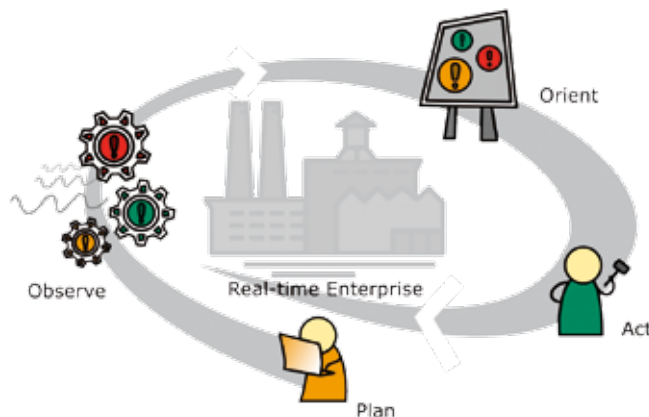
iCEP Studio is an innovative, integrated and highly scalable total solution for realizing CEP solutions. It consists of:

- a methodology for introducing and managing real-time responsiveness in an enterprise
- a modeling tool for graphical editing of event patterns that the system should react on
- a reasoning engine for fast and intelligent processing of incoming event streams
- a visualization tool for supporting real-time decision making processes

iCEP METHODOLOGY

iCEP Studio is underpinned by a unique methodology for a full life-cycle support for designing, monitoring and evolving real-time responsiveness of an enterprise.

The main advantage is the self-learning nature of the methodology which enables continual improvement of the performances of a responsive system.

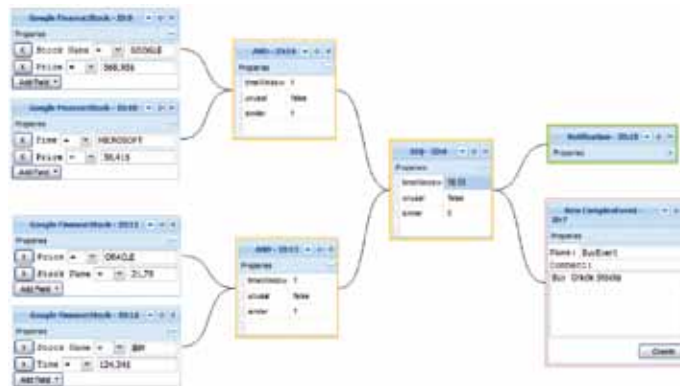


TOOLS

iCEP MODELER: CEPEDO

CEPEDO – Management of Complex Event Patterns is the first fully web-based graphical tool for modeling events, complex events and complex event patterns.

The main advantage is supporting an intuitive and easy integration and visualization of new events from new event sources in order to build new complex event patterns. The underlying semantic model of complex event patterns supports the correct generation of new patterns and their modification. Furthermore it increases the reusability of existing pattern pieces within the enterprise.



iCEP ENGINE: ETALIS

ETALIS is a framework for processing complex events and intelligent responses to detected events. ETALIS helps users to spot business situations of interest in real time, and to capitalize on actions taken automatically and instantaneously. The framework is based on the theoretical foundations of Logic Programming.

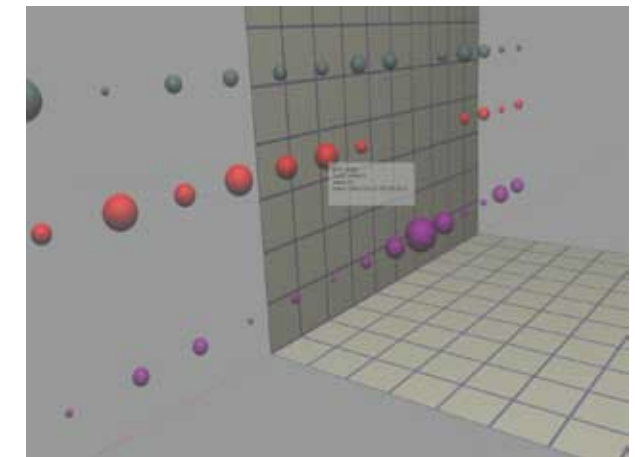
ETALIS' main advantages are novel algorithms for very efficient detection of complex events, and deductive reasoning about event-triggered actions. This ensures a very complex, but nevertheless fast response on emerging situations.

TOOLS

iCEP DASHBOARD: 3DVISIO

3DVISIO is a platform for the 3-D visualization of complex events. The innovative approach enables the representation of different parameters related to the importance of an event, supporting a decision maker in better understanding of an emerging situation.

The main advantage is enabling real-time decomposition of complex situations into more understandable visualization elements.



More information about tools, projects and publications can be found at:
www.icep.fzi.de

