

Special Session

Performance in Industrial Holonic Systems

<http://ermolayev.com/pi-hols/>

at 3rd International Conference on **Industrial Applications
of Holonic and Multi-Agent Systems** (HoloMAS 2007)

September 3-5, 2007, Regensburg, Germany

<http://cyber.felk.cvut.cz/HoloMAS/2007/>

in conjunction with the 18th International Conference on
Database and Expert Systems Applications (DEXA 2007)

<http://www.dexa.org/>

ABOUT THE SESSION:

A Holon in a broad philosophical sense is an entity which is a whole and a part of the whole at the same time. A very close paradigm of a holistic approach advocates for the fact that the properties of the whole system can not be described using only the properties of its parts. In such a holonic system some distinct “integral” properties appear. These emerging properties represent the new qualities of the non-mechanistic union of the system’s constituents. The following aspects of a holonic paradigm are of particular academic and practical interest:

- The model of an Organization capturing its self-configurability, self-development, and dynamic character
- Deliberate collaboration
- Ambient intelligence

One natural choice for modelling a holonic system and implementing software for it is the choice of an intelligent software agent and agency paradigms. Another way for implementing holonic software systems may be the use of self-configurable compositions of (Semantic) Web Services. These software engineering approaches, though distinct, have at least one important feature in common – formal shared representation of Domain semantics.

The Session solicits primarily the contributions related to industry. Indeed, a holon and a holonic system are quite appropriate metaphors to be used in implementing and deploying intelligent software for a vastly wide variety of industrial applications. The spectrum is as broad as starting with Agile Manufacturing, e-Commerce, Traffic Control and ending with Engineering Design. Holons are especially attractive in representing self-configuring, self-optimizing, collaborative dynamic systems. These systems are distributed, reactive to the influences coming from their environment and have adaptive structures.

Our special focus of interest in such systems is their performance. Performance Management domain is a fastly growing multi-billion market which drastically lacks reliable means for measuring, assessing, and optimizing the performance of industrial systems.

MAILING LIST

We maintain Pi-HoLS mailing list to inform people about the session and the news. Please subscribe to keep you informed. To subscribe please write an e-mail to <mailto:Pi-hols-request@vcad-vlab.net?Subject=subscribe> or write to [vadim at ermolayev dot com](mailto:vadim@ermolayev.com) mentioning your request to be subscribed.

TARGET AUDIENCE:

The session aims to bring together researchers and practitioners active in the area of holonic, multi-agent systems, knowledge engineering, and performance management together with key engineers and decision makers to share their views and experience in design, development, deployment, and application of software tools for measuring, assessing and optimizing the performance of industrial systems based on holonic principles.

SUBMISSION TYPES:

The following kinds of papers are solicited:

- Research papers
- Industrial Case Studies
- Strategic vision and requirements analysis papers
- Technology development and deployment papers
- Surveys of the State –of-the-Art

SUGGESTED TOPICS:

In addition to the focus topics of HoloMAS the following and related themes are suggested:

- Conceptualization of holonic paradigm in industrial settings
- Models and measures of Performance
- Engineering and deployment of holonic/agent based software systems for industries
- Industrial applications and Use Cases for holonic and agent based software systems
- Software architectures based on the metaphor of a holon
- Knowledge models and knowledge representation frameworks for holonic systems focused on Performance assessment
- Collaboration in holonic systems
- Ambient intelligence in holonic systems
- Modeling and simulation tools
- Visions and future trends in Performance Management based on holons

PAPER SUBMISSION DETAILS:

Authors are invited to submit research or industrial contributions in English. A paper should not exceed 10 pages in its length. Formatting guidelines are specified by the proceedings publisher (Springer Verlag). Authors are advised to submit their papers electronically:

- To the HoloMAS 2007 paper submission system (<http://www.dexa.org:9005/REG-paper/index.html>)
- And by e-mail to Special Session organizers (<http://ermolayev.com/pi-hols/#j7>)

The submissions are subjected to the double-blind review by several members of the HoloMAS Program Committee (<http://cyber.felk.cvut.cz/HoloMAS/2007/#j4>) and session organizers. All accepted papers will be published in the conference proceedings in "Lecture Notes in Computer Science" (LNCS) series by Springer Verlag.

IMPORTANT DATES:

1. Submission deadline: **March 10, 2007** (extended)
2. Acceptance notice: April 15, 2007
3. Camera-ready copies: May 15, 2007

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