

PAIKM-2005 — Peer-to-Peer and Agent Infrastructures for Knowledge Management

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Today's IT infrastructures for knowledge management often build on centralized information systems architectures, e.g., Web servers. Such systems have shown their benefits in many situations where knowledge processes are comparatively rigid and where the value of knowledge to be contributed to such a centralized repository can be easily assessed. Unfortunately, knowledge-intensive work frequently exhibits some different characteristics:

- It happens sporadically;
- It is not tightly embedded in standardized processes or knowledge structures;
- It includes previously unseen domains of interest to the knowledge worker;
- It requires a lot of ad-hoc interaction with other knowledge workers;
- Its value is hard to be assessed and it will end up in a set of best-practices only after a long time.

Hence, a lot of results of such knowledge-intensive work do not make it into centralized repositories. They remain closed away on PCs or laptops and are unaccessible to the organisation. Thus, a lot of redundant work may be performed and people do not fully benefit from the work of their colleagues.

Peer-to-Peer (P2P) and agent infrastructures serve the needs of knowledge workers for a more flexible knowledge sharing environment adapted to their personal needs and up-to-date with regard to ad-hoc knowledge provided by others.

In the workshop, we saw a set of techniques that contribute to this overall goal spanning the full breadth from reusing existing servers to finding the right peer to talk to. In particular, the latter topic is germane to knowledge management. While we interact with computers as one of the main parts of our knowledge work these days, it appears very promising to let our computers communicate with each other in order to find the right peers to talk to—for human communication as well as for retrieval of facts and documents at the technical level.

Thus, P2P and agent infrastructures in KM do enhance our individual capabilities for collaboration and our individual capabilities for socializing for the purpose of knowledge management.

The two papers that are included in this conference post-proceedings emphasize on linking peers in P2P networks, thus showing the potential of P2P

technology to reflect the need on social constructs in IT for knowledge management. Courtenage & Williams present a publish/subscribe mechanism for automatic hyperlink creation where authors can *express an interest* about the kind of content a page should link to. In contrast to this content-oriented view on linking peers, Schenk’s approach explicitly includes a social concept, namely a *reputation measure*, into his strategy for connecting peers.

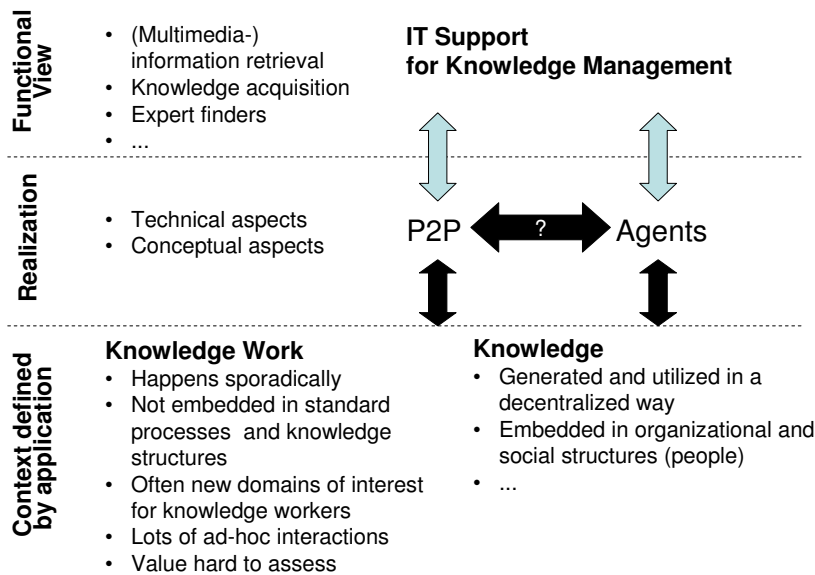


Fig. 1. Discussion space of the PAIKM workshop

The workshop’s lively closing discussion—Figure 1 sketches the topic space—showed the agreed-upon demand of knowledge management for distributed IT support. Nevertheless, there are still many technical and conceptual challenges with respect to the question how agent and P2P architectures have to be structured for the special demands of knowledge management environments.

Enjoy reading!

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