

SENSORIA: Engineering for Service-Oriented Overlay Computers

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Abstract. Service-oriented computing is emerging as a new paradigm based on autonomous, platform-independent computational entities (called services) that can be described, published and categorised, and dynamically discovered and assembled, resulting in massively distributed, interoperable, evolvable systems. The IST-FET Integrated Project Sensoria is developing a novel comprehensive approach to the engineering of service-oriented software systems where foundational theories, techniques and methods are fully integrated in a pragmatic software engineering approach. At the core of our research is a concept of service that generalises what we know today from Web Services and Grid Computing. In this talk, we present a flavour of our approach, including modelling and programming primitives supported by a mathematical semantics, powerful analysis and verification techniques for behavioural properties and quality of service, and model-based transformation and development techniques. We use one of our case studies, automotive systems, for illustration purposes.