

Welcome to S-Cube

Welcome to the first issue of the S-Cube newsletter. S-Cube is the European Network of Excellence on Software Services and Systems. This newsletter, along with the S-Cube web-portal [<http://www.s-cube-network.eu/>] will provide you with regular news from S-Cube. It invites you to join our ever-growing inter-disciplinary community of academics and practitioners working on software services.

S-Cube has now been going for 12 months, and has produced important results. These include comprehensive state-of-the-art surveys of work about services and service-based systems, and new results from the inter-disciplinary research that S-Cube is

fostering. The results have laid important foundations for more inter-disciplinary research by building a substantial knowledge model of important concepts and definitions in software services. You can access this new Knowledge Model at <http://www.s-cube-network.eu/>.

We hope you enjoy reading this and future newsletters.

Klaus Pohl (S-Cube Coordinator)
Mike Papazoglou (Scientific Director)

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Why S-Cube?

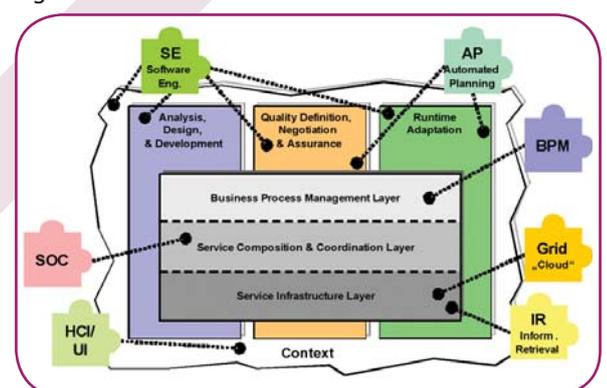
Industry is increasingly seeking to adopt service-oriented architectures (SOA) to build dynamic, distributed and adaptive software systems. However, although different communities have addressed business process management, service composition and coordination, and services infrastructure, important challenges are still to be overcome. These challenges include managing the complexity of service-centric systems, specifying, monitoring and enforcing service qualities and service-level agreements, and developing systems that can proactively adapt to changing requirements and contexts.

Developing baseline solutions to these challenges is best achieved through

collaborations between different academics in different communities who are researching business process management (BPM), grid computing (GRID), service-oriented computing (SOC) and software engineering (SE). S-Cube, the European Network of Excellence on Software Services and Systems, brings together over 70 researchers and 50 PhD students from leading European research institutes and universities in the different communities. The figure on the right shows how the different communities are reacting to the different challenges.

S-Cube aims to establish an integrated, multi-disciplinary

research community that will achieve worldwide scientific excellence by defining a broader research vision to shape the software-service based Internet of the future. It is funded for 4 years by the European Community's 7th Framework Programme FP7/2007-2013 under Objective 1.2 'Services and Software Architectures, Infrastructures and Engineering'.



Successful ServiceWave Conference in Madrid

The first ServiceWave conference was held in Madrid from the 10th to the 13th December 2008. ServiceWave was jointly organised by the European Technology Platform (ETP) NESSI together with the ETPs eMobility, EPoSS, ISI and NEM, Spanish Technology Platform INES, European Funded Networks of Excellence CoreGRID and S-Cube and European Funded Supporting Actions EIFFEL, NESSI-2010 and 4NEM.

Klaus Pohl, coordinator of S-Cube, Petri Mähönen, coordinator of EIFFEL and Thierry Priol, coordinator of CoreGRID organized a peer-reviewed Scientific Track. The scientific program committee accepted 28 papers from 102 submissions, 10 of which were co-authored by S-Cube members.

The conference attracted over 250 participants from the grid computing, service-oriented computing, software engineering and business process management fields. Academics and practitioners discussed important topics during 3 industrial panels, 10 research sessions and 4 keynote presentations. Another 7 workshops explored early and innovative research ideas, including a workshop on "Monitoring, Adaptation and Beyond (MONA+)" organized by S-Cube members.



organized by



In cooperation with

CoreGRID



eMobility



NESSI 2010



Software Service Education at Politecnico di Milano

The participation of its Software Engineering and Information Systems groups participating in S-Cube led the Politecnico di Milano to start a Master's level track on Networked services in the Fall of 2007. The track offers Computer Engineering students a curriculum focused on software services. In addition to traditional database, software engineering, computer networks and information systems courses, two new courses on Service Technologies were launched to focus on service-oriented middleware and business process modelling with a service-oriented perspective.

The first course presents the principal concepts and basic technologies for designing and realizing service-oriented applications. It presents reference interaction paradigms

and conceptual models for service-oriented and component architectures with the enabling technologies. The second course presents concepts and technologies for realizing complex service-based applications. Applications studied in the course are realized through service composition using paradigms for service coordination, service modelling, and quality of service negotiation. A third course focuses on economics of services and networks, while other courses focus on performance, quality, and security.

For further information:

<http://home.dei.polimi.it/pernici/PolIMI-SSME/>.



Our Researcher Mobility Programme

A Personal View, from Olha Danylevych, IAAS, University of Stuttgart

The mobility of researchers in S-Cube is essential to broaden and deepen collaborations between S-Cube partners. I have used the programme twice in 2008 to visit and collaborate with other S-Cube partners. Here is a brief report from one visit.



From left to right:
Marina Bitsaki, Karmazi Marianna, Petridis Pantelis, Olha Danylevych,
Georgios D. Koutras, Prof. Christos Nikolaou

The visit to the University of Crete was used to explore approaches to service orchestration and choreography including BPEL4Chor at IAAS University of Stuttgart and service value networks (SVNs) at the University of Crete. We also investigated modelling key performance indicators (KPIs) and mechanisms to transform SVNs into executable runtime artefacts.

The collaboration explored top-down and bottom-up approaches. The top-down approach focuses on stepwise refinement of SVNs into choreographies and orchestrations, and KPIs into observable state changes. The bottom-up approach implements the stepwise abstraction of runtime artefacts such as orchestrations into SVNs and audit data into KPIs. The collaboration resulted in one paper entitled An Architecture for Managing the Lifecycle of Business Goals for Partners in a Service Network that was reported at the ServiceWave 2008 Conference.

As well as the research exchange the mobility programme gave me a great insight into Greek culture and traditions. My thanks to the team in Crete who made me so welcome - thanks a lot!

INES: The Spanish Platform for Software and Services

Several EU countries currently have, or are creating, national versions of NESSI, the European Technology Platform on Software and Services. All have similar goals to support national research and development policies and foster international cooperation. In this newsletter we provide report on the Spanish initiative INES (<http://www.ines.org.es/>).

INES, started on December 2005, seeks to establish a research agenda aligned with the Spanish National Research Plan and create critical mass in and coordination between research and development efforts of the different Spanish stakeholders. A major part of INES is geared towards fostering participation of INES members in European-funded projects. The proportion of INES members who are academics is higher than in NESSI but the dynamics are similar. For example, working groups evolve with the changing research and innovation landscape, and have been the origin of several EU-funded projects.

The last INES General Meeting ran for 3 days and was attended by around 150 people. Invited speakers included Stefano di Panfilis, Technical Director of NESSI, and member of S-Cube's industrial advisory board. Representatives from similar national initiatives in Slovenia, Norway, Hungary, Bulgaria and The Netherlands attended and shared their experiences in setting up and running such initiatives as well as strengthen links between them.

Over the last 3 years INES has constructed a vibrant software and services community that has blended different types of stakeholders and is beginning to achieve its goals. As between S-Cube and NESSI it has sought collaboration between S-Cube and the different national platforms in software and services, with mutual benefits for all.



S-Cube organizes the Service and Software Architectures, Infrastructures and Engineering (SSAIE) Summer School

The 2009 SSAIE Summer School will bring together the best international experts on software and services and graduate students, young researchers and professionals from leading academic, research and industrial organizations.

In addition to delivering high quality training, the Summer School will forge a new research and scientific community on Service Science Management and Engineering (SSME). The Summer School fosters the free exchange of ideas and helps the participants to network and start new cooperative research projects.

The Summer School is organized by the Training and Summer School Collaboration Working Group that brings together projects from the IST SSAIE unit (http://cordis.europa.eu/fp7/ict/ssai/home_en.html). Professor Christos Nikolaou from the Computer Science Department at the University of Crete is coordinating the Group. Previous workshops were held in Crete in May 2007 on the business process in service science and in Palermo, Italy in June 2008 on perspectives on services.

In 2009 the Summer School will take place in beautiful Crete. See <http://www.ssme2009.tsl.gr> for more details and to register.

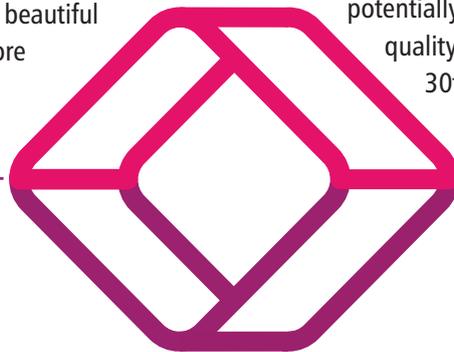
Call for Papers: PESOS Workshop at the ICSE 2009 Conference

S-Cube is organizing the PESOS workshop (Principles of Engineering Service Oriented Systems) that seeks to provide a forum for presentation and discussion of a wide range of topics related to the new paradigm of service centric software engineering. It will bring together researchers as well as practitioners working in the areas of software system engineering and service-oriented computing to discuss future challenges, recent developments, applications, methods, techniques, experience reports, and tools to support the engineering and use of service centric systems.

PESOS will be collocated with the 31st International Conference on Software Engineering (ICSE 2009), which will take place in Vancouver, Canada from May 16-24, 2009.

Software Practice and Improvement

S-Cube researchers Ita Richardson, Elisabetta di Nitto and Dimka Karastoyanova are Guest Editors of a special issue of Software Process Improvement and Practice to be published in early 2010. This focus of this issue is to explore software process challenges in the context of organizations that are developing software for services, and how software processes and practices are, or potentially can be, applied to improve service software quality and productivity. Paper submissions are due 30th September 2009. For further information please contact any of the editors. Contact e-mail address.



Key S-Cube References

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