



CloudWATCH EU Innovation Hub

Cloud Computing, Internet of Services, Advanced Software Engineering

An A-Z of the European initiatives on Display

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ARTIST - Advanced software-based service provisioning and migration of legacy software



Focus: Reducing the risks, time and cost of migrating legacy software and on lowering barriers for service companies wishing to benefit from the cloud. It will enable software vendors and users of open source software to migrate legacy software to benefit from a new software paradigm that improves performance, cost effectiveness and interoperability. Supporting the adaptation of legacy applications to the Future Internet so that can be offered as SaaS over the Internet.

Coordinator: Atos, Spain

Partnership: Tecnalía, Spain; INRIA, France; Fraunhofer, Germany; Technical University of Vienna, Austria; Engineering, Italy; Institute of Communication and Computer Systems, Greece; Sparx Systems, Austria; Athens Technology Center S.A., Greece; Spikes NV, Belgium

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://www.artist-project.eu>

BETaaS - Building the Environment for the Things as a Service



Focus: Developing a platform for the execution of machine-to-machine (M2M) applications built on top of services deployed in a ‘local cloud’ of gateways. Embedding by design scalability, security, dependability, context and resource awareness, and Quality of Service. Targeting Smart City and Home Automation use cases. Open source release will benefit from community contributions so service providers can focus on application-specific aspects. This approach is expected to reduce development costs and time-to-market.

Coordinator: INTECS, Italy

Partnership: Atos, Spain; HP Italy, Italy; Digital Converge, Greece; Tecnalía, Spain; Aalborg University, Denmark; Pisa University, Italy

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://www.betass.eu>

CELAR - Cloud Elasticity provisioning



Focus: Ensuring the optimal use of cloud resources based on interoperability and open access for ICT products and services, resulting in cost savings and increased application performance required by both infrastructure providers and users. CELAR will provide open, standardised access over the complete stack of the cloud ecosystem, helping to avoid vendor lock-in, increased applicability and ease of service development and deployment. Its use cases will ultimately benefit small businesses and address health challenges.

Coordinator: ATHENA Research Center, Greece

Partnership: University of Cyprus, Cyprus; Vienna University of Technology, Austria; GRNET, Greece; Playgen, UK; Paterson Institute for Cancer Research at Manchester University, UK; Sixsq Sarl, Switzerland; Flexiant, UK

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://www.celarcloud.eu>

Citizen Cyberlab



Focus: Building digital tools and online collaborative platforms for Citizen Science, and striving to enhance the opportunities for learning and creativity available to Citizen Scientists worldwide. Beyond helping scientists execute laborious tasks, Citizen Cyberscience projects enable citizens to learn about science and take part in the more creative aspects of research. To this end, Citizen Cyberlab is assessing the role of existing on-line collaborative environments and software tools in supporting and stimulating creative learning, as well as evaluating the best practices of current Citizen Science projects.

Coordinator: Université Paris Descartes (UPD), France

Partnership: European Organisation for Nuclear Research (CERN), Switzerland; the United Nations Institute for Training and Research (UNITAR/UNOSAT), Switzerland; Imperial College (ICSTM), UK; University College London (UCL), UK; Université de Genève (UNIGE), Switzerland; The Mobile Collective (TMC), UK.

Funding: European Commission, 7th Framework Programme, FP7-ICT-2011.8.1, “Technology Enhanced Creative Learning in the field of Citizen Cyberscience”.

Website: <http://citizencyberlab.eu/>.

Clouding SMEs - Accelerating the adoption, deployment and use of Cloud Computing by SMEs



Focus: Developing and supporting a sustainable pan-European SME community on Cloud computing. Producing a vision document reflecting the common voice of SMEs in terms of cloud computing issues.

Building the SME community and providing support and training through the multilingual SaaS PROMIS® platform, which will be tailored to the CloudingSME's needs. It will include tools and templates for cloud adoption issues. Creating synergies between SME communities (e.g. SME Associations) and cloud communities (e.g. EuroCloud).

Coordinator: European Association of Craft Small and Medium Sized Enterprises (UEAPME), Belgium

Partnership: EuroCloud Germany; Pan European ICT & eBusiness Network For SME Association (PIN-SME), Belgium; PROMIS@Service Sarl, Luxembourg; Bundesverband IT-Mittelstand, Germany; CLOUDZONE, Germany; ECIPA – Lombardia, Italy; EBS, Germany

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2013.1.2 “Software Engineering, Services and Cloud Computing”

Website: cloudingsmes.eu

Cloud Catalyst – Reenergise productivity, efficiency and competitiveness of the European economy through cloud computing



Focus: Supporting entrepreneurs, researchers and software developers to create value-added cloud solutions. Providing tools to foster the adoption of cloud computing in Europe setting up a cross-border advice and support service, contributing to strengthening Europe's position in the

cloud computing market, including both the European business software industry and individual citizens and consumers. Helping to reinforce the innovation and differentiation level of the European cloud ecosystem.

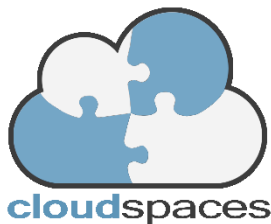
Coordinator: Portugal Telecom, Portugal

Partnership: EuroCloud, Luxembourg; SI-MOBIL, Slovenia; UPTEC – ASPRELA Technology Transfer Association, Portugal; Universidad Complutense de Madrid, Spain.

Funding: European Commission, DG Connect, 7th Framework Programme, FP7 ICT-2013.1.2 “Software Engineering, Services and Cloud Computing”

Website: www.cloudcatalyst.eu/

CloudSpaces - Open Service Platform for the Next Generation of Personal Clouds



Focus: Developing an open service platform providing privacy-aware data sharing as well as interoperability mechanisms among heterogeneous personal clouds. Software solution providers and SMEs will be able to build services on top of open personal clouds. The eyeOs Personal Desktop is the key proof of concept demonstrating the capabilities of the platform. It will contribute to three open source communities: Ubuntu One Personal Cloud, eyeOs Personal Desktop, OpenStack cloud middleware.

Coordinator: Universitat Rovira I Virgili

Partnership: Ecole Polytechnique Federale de Lausanne, Switzerland; Canonical Ltd, UK; eyeOS, Spain; Tissat S.A., Spain.

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://cloudspaces.eu>

COMPOSE - Collaborative Open Market to place objects at your service



Focus: Enabling new services that can seamlessly integrate real and virtual worlds through the convergence of the Internet of Services with the Internet of Things. It will provision an open and scalable marketplace infrastructure, in which smart objects are associated to services that can be combined, managed and integrated in a standardised way to

easily and quickly build innovative applications. It will enable SMEs, service providers and telecommunication companies to introduce new Internet of Things-enabled services and applications to the market in a short time and with a small upfront investment. It has two use cases: Smart City Barcelona and Smart Territory Trentino.

Coordinator: IBM Research, Israel

Partnership: CREAT-NET, Italy; Fraunhofer FOKUS, Germany; the Open University, UK; Barcelona Supercomputing Center, Spain; Innova SpA, Italy; University of Passau, Germany; U-Hopper, Italy; ERCIM (W3C), France; Fundacio Privada Barcelona Digital Centre Tecnologic, Spain; Retevision, Spain; EVRYTHNG, UK.

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://www.compose-project.eu/>

HARNESS - Hardware and network-enhanced software systems for cloud computing



Focus: Integrating heterogeneous hardware and network technologies into data centre platforms, increasing performance, reducing energy consumption and lowering cost profiles for high-value cloud applications such as real-time business analytics and the geosciences. It will enable providers to offer new levels of service to cloud applications while opening a new market to the purveyors of specialised hardware and network technologies.

Coordinator: Imperial College, University of London, UK

Partnership: Ecole Polytechnique Federale de Lausanne, Switzerland; University of Rennes, France; Zuse Institute Berlin, Germany; Maxeler Technologies, UK; SAP, Germany.

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 "Cloud Computing, Internet of Services, Advanced Software Engineering".

Website: <http://www.harness-project.eu>

KC Class – Cloud assisted services



Focus: Developing services and products in the area of cloud computing. Research and competence building is focused on safety, mobility, multi-tenancy, identity management, reliability, data management and open interfaces, leveraging this know-how to create a new generation of applications for installation and implementation in the cloud. Among the application fields a special attention is given to the following: distributed

processes, product management, knowledge development, health and environment. All these competences are upgraded with the services and products that will be marketed on the global market with the help of the competence centre. One of the key goals of the KC operation is to penetrate on international markets with more of services and products.

Coordinator: EuroCloud Slovenia

Partnership of research institutions: Institute Jožef Stefan; Faculty of Electrical Engineering and Computer Science, University of Maribor; Faculty of Computer and Information Science, University of Ljubljana; Faculty of Electrical Engineering, University of Ljubljana; Institute Andrej Marusic, University of Primorska. **Partnership of businesses:** INFOTEHNA; Alpineon; Epilog; Inova IT; Joc; SmartCom; Studio Moderna; Turboinstitute; CHS; NIL.

Funding: Ministry of Higher Education, Science and Technology, Slovenia with partial financing from the European Union, European Regional Development fund.

Website: <http://www.kc-class.eu/>.

MobiCloud



MobiCloud

Focus: Developing a cost-effective platform for making existing company back-end systems available to mobile workers, without the complexity and up-front cost that is normally associated with traditional mobile application development. It is using existing cloud-based and web-based technologies to deliver a service-based model for a new kind of mobile application - one that is intrinsically cross-platform and context-aware. Four pilot projects in 4 European countries focus on city transit, rail transport, field service and construction.

Coordinator: Appear, Sweden

Partnership: Costain, UK; Nettetropolis, Germany; EsperantoXL, Netherlands; COMIT, UK.

Funding: Partially funded by the European Union under the Information and Communication Technologies Policy Support Programme (ICT PSP), which is part of the Competitiveness and Innovation Framework Programme (CIP).

Website: <http://www.mobcloudproject.eu>

MIDAS – Model and inference driven automated testing of service architectures



Focus: Implementing an integrated framework for the automation and intelligent management of service oriented architecture testing. The framework is available as a PaaS solution on a cloud infrastructure, supporting testing activities: generation, execution, result analysis, planning and scheduling. Two pilot testing experiences

will be carried out: one for healthcare and one for supply chain management. It will define new business models for testable services, service architecture delivery and distributing advanced SOA testing facilities through new channels, such as PaaS on cloud infrastructures.

Coordinator: DEDALUS SpA, Italy

Partnership: Fraunhofer FOKUS, Germany; Simple Engineering, France; National Research Council, Italy; T6 Ecosystems Srl, Italy; Sintesis Foundation, Slovenia; Georg-August-Universität Göttingen Stiftung Öffentlichen Rechts, Germany; Université Pierre et Marie Curie, France

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://www.midas-project.eu>

MO-BIZZ



Focus: Fostering mobile business through enhanced cloud solutions. The proposed services will be demonstrated and evaluated in six complementary experiments coming from organisations, different from the cloud platform provider (PT). The pilots are based on the following business solutions of MO-BIZZ partners: Customer relationship

management solutions, enterprise resource planning solutions, mobile business intelligence, mobile marketing, business collaboration and SmartGrid.

Coordinator: Portugal Telecom

Partnership: Altec Software, Greece; EuroCloud; Mobivory, Spain; PHC, Portugal; Simboli.si, Slovenia; Tessera Multimedia, Greece; TU Berlin, Germany; Unisoft, Romania; XLAB, Slovenia

Funding: European Commission, Competitiveness and Innovation Framework Programme (CIP)

Website: <http://www.mobizz-project.eu/>

MODAClouds - Model-driven approach for design and execution of applications on multiple clouds



Focus: Targets system developers and operators, providing them with tools that support software system life-cycle phases: feasibility study and analysis of alternatives; design, implementation and deployment; run-time

monitoring and adaptation. It provides an open source Integrated Development Environment (IDE) and run-time environment for the high-level design, early prototyping, semi-automatic code generation and automatic deployment of applications on multi-clouds with guaranteed quality of service.

Coordinator: Milan Polytechnic, Italy

Partnership: SINTEF, Norway; Institute e-Austria Timisoara, Romania; Imperial College London, UK; SOFTEAM, France; Siemens - Romania; BOC Information Systems GmbH, Austria; Flexiant Ltd; Atos, Spain; CA Technologies Development Spain SA, Spain

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://www.modaclouds.eu>

Ocean - Open cloud for Europe, Japan and beyond



Focus: Paving the way for a business ecosystem centred on interoperable open clouds in Europe. Identifying areas for co-operation and reuse opportunities and improving positioning of their software developments. It will help develop collaboration

between Japanese and European projects on cloud computing. It supports cloud plugfests in synergy with ETSI, OGF and SNIA. It promotes automated functional and compliance tests for a quality certification of cloud software, fostering the adoption of interoperable open source cloud solutions by SMEs and public administration.

Coordinator: Fraunhofer FOKUS, Germany

Partnership: OW2 Consortium, France; Engineering, Italy; Information-Technology Promotion Agency, Japan

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://www.ocean-project.eu>

OPENi - Open-source, web-based framework for integrating applications with cloud-based services and personal Cloudlets



Focus: Defining and delivering an open-source web platform that will enable mobile application consumers to store data and metadata from their mobile application usage in their own space in the cloud – the “Cloudlet”. It will be an enabler of the Future Internet in the domain of mobile applications across different devices and platforms. It is developing a new breed of applications that can make use of a broad spectrum of

cloud-based functionality and content across devices. It is fostering a user-centric application experience, enabling users to store their personal data and content in the cloud and make it available across applications. It is promoting a novel mechanism for security and privacy, safeguarding access and use of cloud-based functionality and also security of user information stored in the cloud.

Coordinator: Waterford Institute of Technology, Ireland

Partnership: National Technical University of Athens, Greece; Fraunhofer FOKUS, Germany; Logica, Spain; Ambiesense, UK; Velti, Greece; Betapond, Ireland

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://openi.org/>

PaaSage- Model-based cloud platform upperware



Focus: Delivering an open and integrated platform to support model based lifecycle management of cloud applications. It aims to reduce migration and implementation costs; enable the full exploitation of the cloud potential, thus reducing expenditure; avoiding user lock-in to one provider; allowing transparent use of heterogeneous infrastructures; increasing the expertise regarding

cloud use cases and their best approaches; simplifying management of services and infrastructures through dynamic, automated adaptation and enabling integrated improvement of service compositions.

Coordinator: ERCIM, France

Partnership: SINTEF, Norway; National Institute of Applied Sciences, France; Science and Technology Facilities Council (STFC), UK; HPC Centre – HLRS, University of Stuttgart, Germany; INRIA, France; CETIC, Belgium; FORTH, Greece; be.wan, Belgium; EVRY, Norway; Sysfera, France; Flexiant, UK; Lufthansa Systems AG, Germany; GWDG, Germany; Automotive Simulation Center Stuttgart, Germany

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://www.passage.eu>

PROSE - Promoting open source in European projects



Focus: Contributing to the adoption of open source software in ICT projects by increasing the life-cycle of the software developed in European projects. The creation of a coordination platform for software projects will maximise the impact of projects, including training events on open source. Lowering the barriers to the

adoption of FLOSS in ICT projects, increasing its sustainability and the reach of on-going efforts beyond the current boundaries, taking full advantage of R&D opportunities in Europe.

Coordinator: Caixa Magica Software, Portugal

Partnership: Instituto de Telecomunicações, Portugal; Waterford Institute of Technology, Ireland; MFG Innovation Agency, Germany; Edwards, Wildman and Palmer, UK; Geeknet Media, UK

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://www.ict-prose.eu>; <http://www.OpenSourceProjects.eu>

RISCOSS - Managing risk and costs in open source software adoption



MANAGING RISK AND COST IN OPEN SOURCE SOFTWARE PROJECTS

Focus: Offering novel risk identification, management and mitigation tools and methods for community-based and industry-supported open source software

development, composition and life cycle management to manage adoption risks. It aims to provide a clear definition of the roles, tasks and documents implied in the business models and business processes around development and distribution. Managing the risks and leveraging the costs in

adopting and developing a platform to enable information flows from open-source software communities to a company ecosystem.

Coordinator: Technical University of Catalunya, Spain

Partnership: Ericsson Telecommunications, Italy; Fondazione Bruno Kessler, Italy; Maastricht University, Netherlands; Centro Nacional de Referencia de Application de las Tecnologias de la Informacion y la Comunicacion, Spain; XWiki SAS, France; OW2 Consortium, France; KPA Ltd, Israel

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://www.riscoss.eu>

Sucre - Supporting cloud research exploitation



Focus: Consolidating the European cloud computing and open source communities by creating a critical mass of stakeholders collectively promoting the use of open source. It aims to foster an international dialogue on interoperability

and data portability with experts from Europe and Japan and identify opportunities for closer co-operation; identifying barriers to the wider uptake of open source software and assessing the impact of its adoption.

Coordinator: University of Athens, Greece

Partnership: Poznan Supercomputing and Networking Center (PSNC), Poland; SingularLogic, Greece; University of Manchester, UK; Innovation MFG, Germany; Zephyr srl, Italy; Nippon Telegraph and Telephone Corporation, Japan

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://www.sucreeproject.eu>

U-QASAR - Universal quality assurance and control services for Internet applications with volatile requirements and contexts



Focus: Creating a flexible quality assurance, control and measurement methodology to measure the quality of Internet-related software development projects and their resulting products. It aims to ensure that all types of companies (large or small) can incorporate quality to the entire software development life-cycle in a fast, easy and cost efficiently. It will validate and assess the outcomes

in two real business cases representative of different paradigms and development organisations to demonstrate the validity of the approach and platform in different contexts.

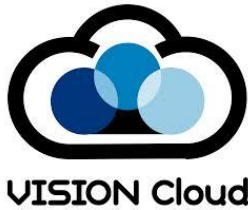
Coordinator: Innopole S.L., Spain

Partnership: MTP, Spain; ATB - Institute for Applied System Technologies GmbH, Germany; SINTEF, Norway; Aalto University, Finland; CONTACT Software GmbH, Germany; INTRASOFT International S.A., Luxembourg; Vaibmu Oy, Finland

Funding: European Commission, DG Connect, 7th Framework Programme, ICT-2011.1.2 “Cloud Computing, Internet of Services, Advanced Software Engineering”.

Website: <http://www.uqasar.eu>

VISION Cloud - Winner of the prestigious IBC 2013 Special Award



Last but not least, comes VISION Cloud, a completed 4-year research and development project led by IBM Haifa Research Lab. VISION Cloud is an advanced cloud object store providing a next-generation storage cloud to facilitate a typical media production workflow. VISION Cloud offers the technology for user-defined rich metadata to be associated with media objects. This provides powerful search capabilities on stored information that can be source and used by journalists.

Data journalists from VISION Cloud media partners RAI and Deutsche Welle are already benefitting from the VISION Cloud solution. VISION Cloud has transformed the way they ingest, filter, sort and visualise large amounts of information making it easier for media producers to create compelling stories for public consumption. VISION Cloud provides strategic value for broadcasters and media companies. It will provide broadcasters like RAI, the Italian nation TV, with technologies that will considerably help in the current transition towards a fully digital production environment.

VISION Cloud partners are making available a wide range of spin-off technologies. It is this innovation that has led to VISION Cloud receiving the IBC Special Award. Michael Crimp, CEO of IBC says *"The IBC awards programme celebrates partnerships working together to solve creative, organisational and commercial challenges, and it is clear that VISION Cloud meets that high ideal"*.

Partnership: IBM Haifa Research Lab, Israel; SAP Research, Israel; Telefonica R&D, Spain; Siemens, Germany; Engineering, Italy; Institute of Communication and Computer Systems, Greece; Deutsche Welle, Germany; RAI, Italy; Umea University, Sweden; Storage Networking Industry Association Europe; Telenor, Norway; Orange Labs, France; University of Messina, Italy