

Digital Agenda

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for Europe

The Digital Agenda Perspective over the
Cloud and Green ICT

Digital Trends 2011

Athens 5 December 2011



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Policy Officer

DG INF SO C1: Digital Agenda Coordination



Every European Digital!

A Digital Agenda for Europe

- Adopted 19 May 2010
- Endorsed by the European Council
17/6/2010
- 7 Pillars, 101 Actions



What is the Digital Agenda?

101 specific actions including 31 legal proposals



A vibrant Digital Single Market

Interoperability and Standards

Trust and Security

Fast and ultra fast Internet access

Research and Innovation

Enhancing Digital Literacy, Skills and Inclusion



ICT-enabled benefits for EU Society





cloud: a definition

Cloud *an elastic execution environment of resources involving multiple stakeholders and providing a metered service at multiple granularities for a specified level of quality (of service).*

Source: **Expert group on Cloud Computing, 2009**

<http://cordis.europa.eu/fp7/ict/ssai/docs/cloud-report-final.pdf>



“We need a well-defined cloud computing strategy to ensure that we make the best use of this potential. The input we are requesting from all interested parties is important to get it right”



Neelie Kroes, 23 May 2011



Why?

- Reducing costs
- Improving services
- Opening new business opportunities
- Respecting the environment - green



Main cloud challenges

- **Interoperability**
 - lock-in risks
 - portability of data, security settings;
- **Privacy & Liability**
 - where is my data? whose law applies? who can access it?
- **Governance, control**
 - no control of licensing terms, SLA, use of legacy application
- **Security, Dependability**
 - data, outages
- ...



European Cloud Strategy

Vice President Kroes announced in Davos three axes for action:

- **Legal Framework**

- Data protection, privacy laws, user's rights

- **Technical & Commercial**

- Research & standardization

- **Market**

- Member states engagement, pilots, public procurement



Funding Opportunities

- CIP Work Programme 2011

“Objective 4.1: Towards a cloud of public services” (funding up to 10m)

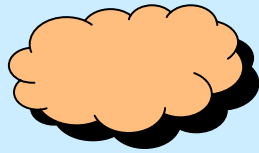
Cloud will also be covered in CIP Work Programmes for 2012 and 2013



Addressing future challenges

Obj. 1.2, ICT WP 2011-2012

Cloud computing



Management of cloud resources

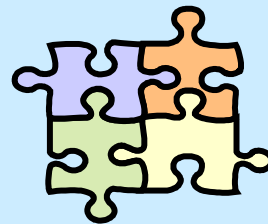
Cloud

Interoperability

Support of mobile, context-aware applications

Integration of **computing and networking environments**

Internet of services



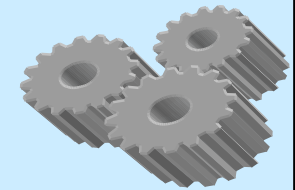
Service engineering

Services enabled by integration of **real and virtual** worlds

Scalability, self-management, fault localisation, ...

Life cycle management tools and methods

Advanced software engineering



Advanced engineering for software

Quality measure and assurance techniques

Management of **non-functional** requirements

Tools and methods for community-based **software development**

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for Europe

Support actions

Standardization and collaboration

Open source development model

Cooperation with Japan on cloud computing



Trends towards Call 8

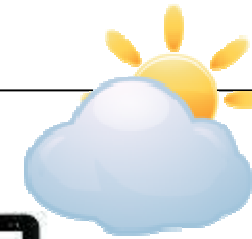
Trends

Cloud, mobile, social, games
Internet



Issues

Huge scale
Huge opportunities
Huge complexity



Technologies (e.g.)

Linked data

Social networks intelligence (getting useful stuff from
social networks)

Collective intelligence (crowdsourcing)

Privacy modelling



Pillar 7: ICT for Social Challenges

Action 69: Assess whether the ICT sector has complied with common energy and emission measures;

Action 70: Support partnerships between the ICT sector and major emitting sectors;



Green ICT

ICT – green in two ways

- Saving/recycling resources in the manufacturing and maintenance of equipment;
- Application of ICT saving energy



Is Cloud Green?

Study says CC can seriously slash carbon emissions

- A company can reduce by 50% their carbon emissions if they migrate their storage operations to the cloud

Carbon Disclosure Project:
The IT Solution for the 21st Century



because

- Cloud computing lowers energy costs for users
- Cuts green house gas emissions

By streamlining information-crunching into single facilities on speedy machines.





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