Thoughts on Future Internet

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Venture Capital

Europe:
We need more VC.
That's it
Venture Capital?

Social Media Landscape @China 2012

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Venture Capital

US: VC investment declining
FI-PPP

Courageous move
FI-PPP

Right Scope
(Challenge 1)
FI-PPP

Right principles

- Program
- Convergence of ICT
- Non-ICT-ICT collab
- Tech Reuse
- Consolidation
- Software that is UUU
- Large-scale pilots
FI-PPP

Truly European

Person (Career),
Team,
Unit,
Department,
Company (Partner),
Task,
Work Package,
Project,
Program

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FI-PPP

Openness

Who can ...
Who should participate?
FI-PPP

Expectation Management

Huge carrot, many rabbits (or mules)
Leadership

Where you are versus where to go?
Coordinator vs Manager vs Leader
Governance
AB, SB, AdvB, EIB, ?
Role of EC

Contractual framework, exploitation, Open Source
FI-PPP

Focus

All about Generic Enablers?
Platform or no platform?
Experimentation?
CTI in Switzerland

Effective and Efficient

Focus on uptake (you can call it innovation)
Industry(SME)-led, but significant involvement of academia
LOW overhead
Builds on top of (applied/foundational) research
Content

Quo Vadis?
Cloud Computing

The Future Saviour?

IaaS → IT departments → Commodity
PaaS → Developers → Applications/Value
SaaS → Consume only, focus on your core competency
Cloud Computing

And European Strength?
Cloud Computing

Example: Telco Strategy

### Wachstumsfelder der Deutschen Telekom.

<table>
<thead>
<tr>
<th>Umsatz in Mrd. €</th>
<th>2012</th>
<th>Ambitionsniveau 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobiles Internet</td>
<td>6,4</td>
<td>≈ 10</td>
</tr>
<tr>
<td>Vernetztes Zuhome</td>
<td>6,3</td>
<td>≈ 7</td>
</tr>
<tr>
<td>Internet-Angebote</td>
<td>1,0</td>
<td>≈ 2</td>
</tr>
<tr>
<td>T-Systems (externer Umsatz) (^a)</td>
<td>6,5</td>
<td>≈ 7</td>
</tr>
<tr>
<td>Intelligente Netzlösungen (Energie, Gesundheit, Vernetztes Automobil)</td>
<td>0,1</td>
<td>≈ 1</td>
</tr>
</tbody>
</table>

\(^a\) Ohne Umsatz aus Intelligenter Netzlösungen.
Cloud Computing
European Strength?


Cloud Computing, And European (Telco) Strength?

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Company</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partnering with technology vendors</td>
<td>Telstra</td>
<td>In June 2011, Telstra announced that it is partnering with cloud technology vendors Cisco and VMware to build the next phase of its integrated cloud platform.</td>
</tr>
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<td></td>
<td>Telecom Italia</td>
<td>In April 2011, Telecom Italia announced its plan to start the construction of a new 2,250 square meter data center in Brussels in August. This is expected to expand its current capacity of 15,000 square meters by 15 percent and help meet the growing demand for cloud and data center services.</td>
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<tr>
<td></td>
<td>KT Corp</td>
<td>In December 2011, a company that that agreed to partner with services for iPad</td>
</tr>
<tr>
<td>Acquiring technology companies to boost cloud capabilities</td>
<td>NTT Corp</td>
<td>In July 2011, NTT Holdings Plc paid for US$80 million for core functionality and access analysis.</td>
</tr>
<tr>
<td></td>
<td>Teléfonica</td>
<td>In June 2011, Teléfonica announced plans to build a new cloud storage service in the National Capital Region (Ottawa and the surrounding area). The telcom stated that three customers had already signed long-term co-location contracts worth about US$100 million (US$100.6 million), to use the new Bell data center, which is scheduled to begin operation in late 2012.</td>
</tr>
<tr>
<td>CenturyLink</td>
<td>In April 2011, CenturyLink purchased for US$2.5 billion cloud computing capabilities to its large base of business services</td>
<td></td>
</tr>
<tr>
<td>Verizon</td>
<td>In January 2011, Verizon announced worldwide for IaaS providers, 13 data centers.</td>
<td></td>
</tr>
<tr>
<td>Offering cloud-based unified communication services</td>
<td>Orange Business Services</td>
<td>In June 2011, Orange Business Services introduced 'Business Together as a Service.' This service allows unified communications solutions to be offered via the cloud, using an 'as a service' model that allows enterprises to quickly and cost-effectively access communication and collaboration tools any time, anywhere, on any device.</td>
</tr>
<tr>
<td></td>
<td>Verizon</td>
<td>In February 2011, Verizon introduced cloud-based unified communications and collaboration (UC&amp;C) solutions for businesses and government agencies. The new IaaS solutions are expected to be available to US customers from spring 2011.</td>
</tr>
<tr>
<td>Expanding private and hybrid cloud offerings</td>
<td>SingTel</td>
<td>In March 2011, SingTel and virtualization software provider VMware unveiled a hybrid cloud computing offering called PowerON Compute. PowerON Compute allows companies to expand the resources of their private cloud infrastructure into SingTel's secure public cloud.</td>
</tr>
<tr>
<td></td>
<td>AT&amp;T</td>
<td>In February 2011, AT&amp;T announced enhancements to its Synaptic Compute as a Service Solution. The enhancements include integration with AT&amp;T's VPN service to enable virtual private clouds, an expanded number of operating system templates, improvements to firewall policies to meet special security requirements, and new self-service and self-provisioning capabilities.</td>
</tr>
<tr>
<td></td>
<td>BT</td>
<td>In February 2011, BT expanded its virtual data center package with an option to manage private cloud environments. Virtual Data Centre (VDC) Private is expected to enable businesses to manage applications and data on a virtualized infrastructure, mounted on their own or BT's hardware.</td>
</tr>
</tbody>
</table>
Cloud Computing

European (Telco) Strength? Yes, increasingly
On Connectivity? (Obj 1.1)

Connectivity alone long identified as unsustainable
Broadband stimulus
Large over-capacities (e.g. in German backbone)
Smart Cities

Constellation w Potential

Concentration of private and public sector
Concentration of knowledge
Concentration of high-quality infrastructure
Citizens, Consumers, Developers
Smart Cities

Smart City Innovation?

Mostly internal to the city
Proposal

PaaS For Smart Cities

Tap into the Smart City Eco-System
Provide a FI-Platform
  Operated by Telcos and Its
Address developers
  With local knowledge
Provide for citizens
  With local needs
Additional Thoughts
Thoughts – APIs

AWS or not AWS?!
Thoughts – Enterprise Grade

Open Source, Cooperation, Foundation

OpenStack: Where are the Europeans?
Thoughts – Incident Management

Cloud==Multi-sided Business (Business Networks)
In case of issues: Your Fault!

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You, he, she and me:
  • Do and Do Not
Thoughts – Federation

There is more than one Cloud (no, no standards needed)
Thoughts – SDN

Enabling, but for what?
Thoughts – Clouds

Many open questions
How to approach,
beyond the FI-PPP?