



# It's not Private, Public or Hybrid: It's Service Constellation and the Cloud Corporation.

Bright Talk

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[utilitycomputing.wordpress.com](http://utilitycomputing.wordpress.com)

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# The Outsourcing Unit at LSE

Director: Prof. Leslie Willcocks

## Why established?

1. To provide insight into the global sourcing phenomenon through studying events, issues and outcomes over time.
2. To help organisations maximise their returns on their strategic investments in the outsourcing of IT and business services.

## Characteristics?

- Independent and not-for-profit
- Academically rigorous
- World class research and publication
- Practical in its application
- Alert to key and future issues
- 1200 plus longitudinal case study base
- Over 320 advisory engagements



In association with  
The Outsourcing Unit  
London School of Economics and Political Science



# LSE Executive Summer School

- **Managing the Outsourcing Enterprise: From Cost to Innovation and Cloud Services**
- 25 June – 29 June 2012 £4,650
- (Also MSc in Management, Information Systems and Innovation)

MISI



# My Argument

- Long term cloud decisions are strategic decisions.
- The current economic climate demands new strategic approaches from IT, not just cost-saving.
- All organisations are service organisations – and providing *service* will involve collaboration beyond the organisational boundary. This is likely to increase.
- IT needs to support the ambidexterity of the organisation to improve such collaboration.
- Therefore I will argue that instead of considering the issue of “Private, Public or Hybrid” in terms of equivalence, we should consider it in terms of service
- We should focus on the “cloud-corporation” as integrated constellations of service.

# My Argument

Long-term decisions on IT are complex and strategic.

Long term cloud decisions are strategic decisions.

Current economic climate demands new strategic approaches from IT, not just cost-saving.



“Cloud computing is taken as the consequence of the evolution of two distinct strands:  
**technological innovation**—based around virtualization and shared computing provision—and **a distinct service based perspective** on computing.”

Willcocks, Venters, Whitley (2010) Cloud and the Future of Business: From Costs to Innovation.  
Accenture in association with the Outsourcing Unit at LSE.



There are some some influencing phenomena.

## Technical

- Virtualisation
- Bandwidth
- Elasticity / data-centre architecture

## Organisational

- Pressure on costs, lack of control over IT, data-analytics, data-centre renewal, green-IT.

## Social

- “Millennials”
- Social networking
- Mobility, iphone, open innovation.

# My Argument

If we focus on the long term it's hard to decide between public and private cloud based purely on current comparisons.

Long term cloud decisions are strategic decisions.

Current economic climate demands new strategic approaches from IT, not just cost-saving.





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Because calculating the ROI of IT long-term is difficult



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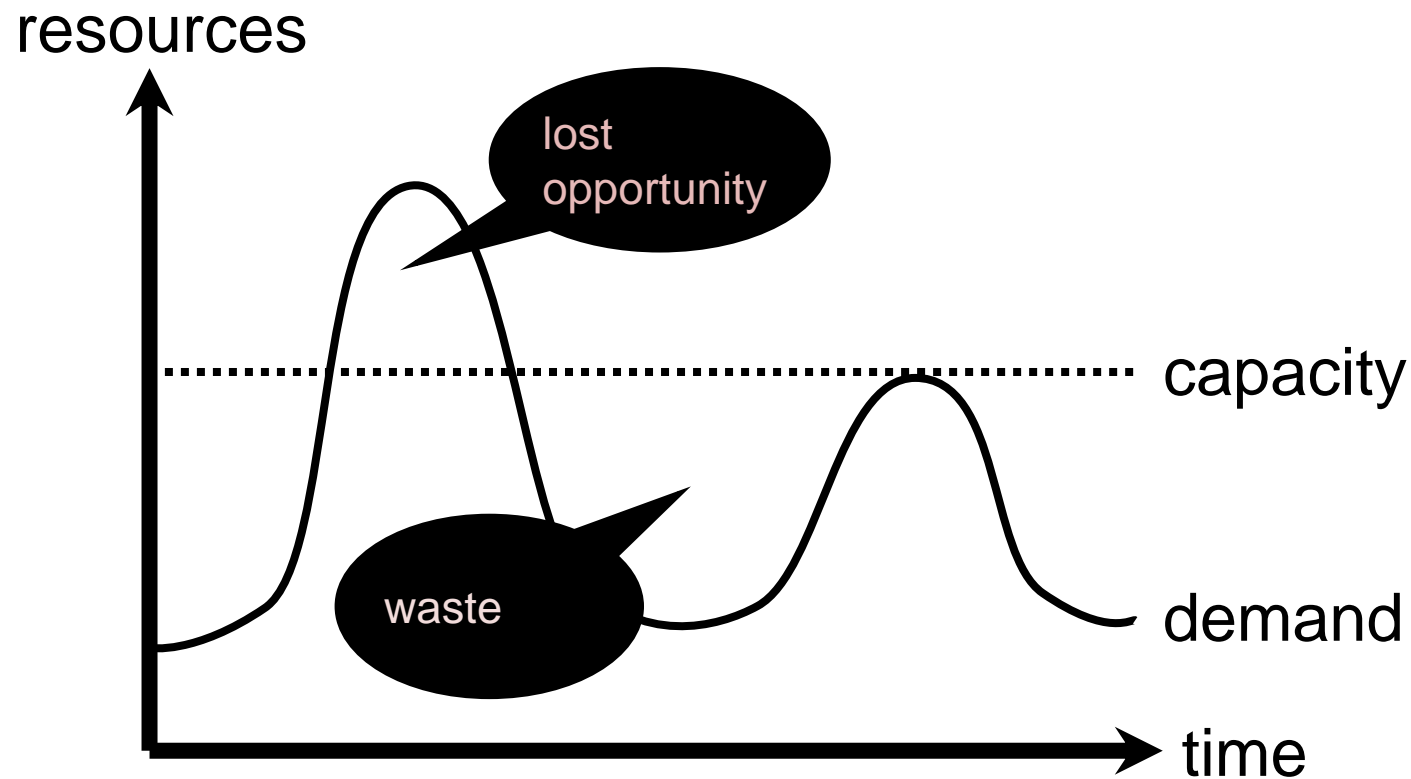
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There are some clearer cost savings though: eg. Statistically multiplexed pooled data-centers



BUT – Organisations fail to understand cost of IT today to compare against:  
**Steve Ballmer: CEO's lack “visceral understanding” of IT costs (@LSE 2010).**  
***We need a way to understand cloud comparisons alongside COST.***

Source: Armbrust, M. et al., 2010. A View of Cloud Computing. Communications of the ACM, 53(4), pp. 50-58.

## Need to evaluate our choice of public vs. private in the short/medium-term. Our “Desires Framework”

<b>Equivalence</b>	The desire to provide services which are at least equivalent in quality, security and latency to that experienced by a locally running service on a PC or server.
<b>Abstraction</b>	The desire to hide unnecessary complexity of the lower levels of the application stack
<b>Automation</b>	The desire to automatically manage the running of a service
<b>Tailoring</b>	The desire to tailor the provided service for specific enterprise needs.

Willcocks, Venters, Whitley (2011) Cloud ‘desires’ framework

# The framework enables evaluation of Cloud offerings...

## And highlights our poor understanding of equivalence

Offering	Equivalence	Abstraction	Automation	Tailoring
<b>Software as a service (SaaS)</b> [Salesforce.com, NetSuite]	Poor knowledge – reliant on contract	At the level of the application	High level of automation	Limited by application
<b>Platform as a service (PaaS)</b> [Azure, Force.com.]	Poor knowledge – reliant on contract	At the level of integrating components	Core management tasks	Through assembly of “lego” components
<b>Infrastructure as a service (IaaS)</b> [Amazon Web Services, Rackspace cloud]	Quality dependent on multiplexing ability	At the hardware level	Limited to Hardware	Complete application stack without networking
<b>Hosted Serv.</b> [Rackspace hosting]	Quality understood, Latency and Security not	Little abstraction	Limited external management	Complete applications stack

# We need to think about equivalence further...

## SECURITY EQUIVILENCE

- “There’s a great thing with confidence and comfort that you get if you walk around your server racks and as you, as you hug the hardware, so to speak” [VP Marketing – SaaS/PaaS Company].

Bad?	Good?
People hack brands – multiplex security poorly understood by user	Security analytics across users, machines and companies. DDoS reponses
Risks of skills attrition	Skills within cloud providers
Reputational dangers of cloud failure	
Internal cloud provider risks poorly contracted for.	Government interest (and £) driving changes and improvement
Poor understanding of SLA and Risk	Interest in standards and comparisons

## We need to think about equivalence further...

### AVAILABILITY EQUIVILENCE

- Reliance on capacity planning and capability management of cloud provider – and own ability to manage this contract.
- Worry about ‘Winners curse’ (Kern et al., 2002c).
- Contracts (SLAs) poor mechanisms for knowledge exchange.

Kern T, Willcocks L and Lacity M (2006) Applications Service Provision to Netsourcing: A Risk Mitigation Framework. In *Global Sourcing of Business and IT Services* (Willcocks L and Lacity M, Eds), pp 256-274, Palgrave Macmillan, Basingstoke.



## We need to think about equivalence further...

### LATENCY EQUIVILENCE

- The cloud is not “cloud-like”
- External and internal latency.
- “Lots of people who work in networking, they say the cloud is fundamentally flawed because the network is the biggest constraint. You can put compute at the end of the network but if the network is limited, then no matter how powerful it is, you’ve still got that constraining factor” [Senior Consultant – Data-centre/IaaS consultancy].
- Legal, geographical and jurisdictional issues.

# My Argument

But while useful all this asks the wrong questions... It still focuses on equivalence with **today not tomorrow...**

*I therefore want to argue that:*

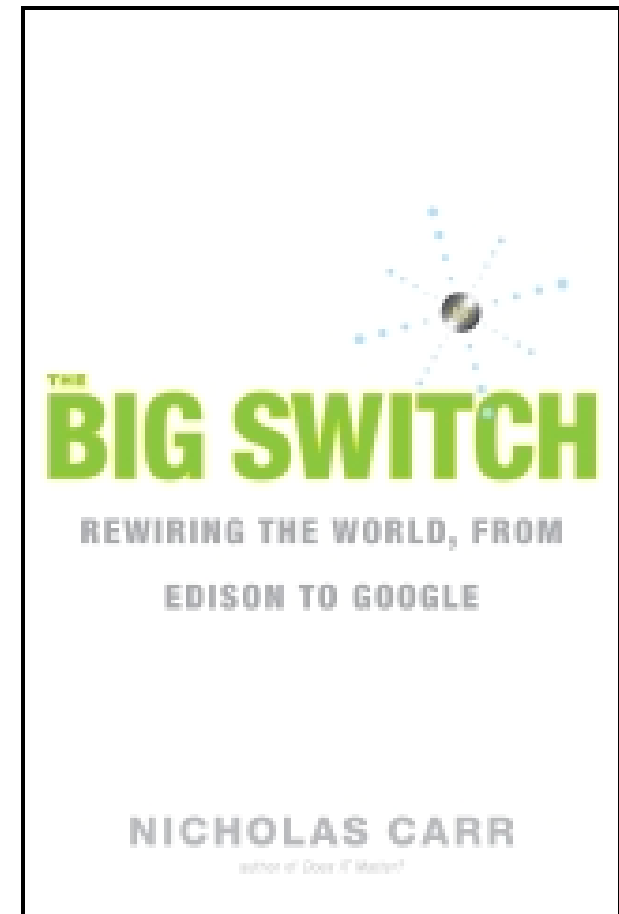
All organisations are service organisations – and providing service will involve collaboration beyond the existing organisational boundary.

In particular IT needs to support the ambidexterity of the organisation.

Strategically the narrative of the Cloud as cost-saving is compelling. Hence our focus on “public/private/hybrid” ...

- *“In the long run the IT department is unlikely to survive, at least not in its familiar form. It will have little left to do once the bulk of business computing shifts out of private data-centres and into “the cloud”. Business units and even individual employees will be able to control the processing of information directly, without the legions of technical specialists”*  
(N.Carr 2009 p118)

“Turkeys voting for Christmas”



We need a new narrative – and for me it's a return to the innovative potential of the PC..

- Cloud as a re-run of the PC in the '80s.
  - Challenges the strategic relationship between IT and the business executive
  - Severs control over strategy/upgrade/deployment from IT (particularly for SaaS).
  - Offers narrative of drastic reduction in costs.
  - Offers “easy” contracting – but long term issues and unknown costs
  - **BUT offers huge opportunity for innovation, collaboration, ambidexterity...**
  - **Offers the potential for service development**



This is not a revolutionary voice – others agree.

- “Computing is still in the midst of an explosion of innovation and co-invention. Those that simply replace corporate resources with cloud computing, while changing nothing else, are doomed to miss the full benefits of the new technology”\*
- “It is the reinvention of new services which are key to the success of cloud”

\*Brynjolfsson E, Hofmann P and Jordan J (2010) Economic and Business Dimensions Cloud Computing and Electricity: Beyond the Utility Model. *Communications of the ACM* 53(5), 32-34.

# Our Survey supports this also - third in the list – “Cloud Facilitates a virtual / distributed organization”.

*To what extent do the following aspects of the "Cloud" value proposition appeal, as it pertains to your job?*

*Answer selected: “Appeals to a great extent”*

■ Business Executives ■ IT Executives



Source: HfS Research and The Outsourcing Unit at the London School of Economics, November 2010  
Sample: 628 Enterprises

But organisations need to be ambivalent about innovations: IT needs to support Ambidexterity.

- **“Organisational ambidexterity is the difficult act of balancing two diametrically opposed organisational qualities – adaptability and alignment.”\***
- **Adaptability** – Nimble, Agile, change, innovation.
- **Alignment** – Leveraging, Exploiting, maximizing.

\*Birkinshaw J (2005) The ambidextrous organisation. School of Management, University of California.



We see cloud as needing to similarly support organisational ambidexterity.

Figure 2. Cloud computing as the infrastructure for business services within an "ambidextrous" and agile organisational form

Innovation Focus	Proposition	Cloud Services
Incremental Innovation	Cost control through consolidation and virtualisation. Direct replacement of Apps with SaaS	Virtualisation, Hybrid Clouds, IaaS, SaaS
Architectural Innovation	Improvement in business processes; increasing mobility; increasing usability and elasticity	Mobilisation, consumerisation, PaaS, IaaS, SaaS
Radical Innovation	Skunk-work IaaS, collaboration (intra- and inter-organisational)	Elasticity, consumerisation, market-based, PaaS, SaaS

Shadow-IT

# My Argument

We need to think about cloud in terms of service...

*Instead of considering the issue of “Private, Public or Hybrid” in terms of equivalence, we should consider it in terms of service*

*We should focus on the “cloud-corporation” as integrated constellations of service.*

Adopting a Service Dominant Logic can help navigate this strategic challenge.

- Vargo S and Lusch R (2004) Evolving to a New Dominant Logic for Marketing. *The Journal of Marketing* 68(1), 1-17.
- **Goods-Dominant Logic:** Firms exist to make and sell value-laden goods.

**Service-Dominant Logic:**

- Service is the fundamental basis of exchange.
- The customer is always a co-creator of value
- All economic and social actors are resource integrators

**There are No “Services” in Service-Dominant Logic**

From a Service-Dominant Logic perspective Cloud is not a cost-based decision between private/public/hybrid.

- We see service-chains emerging in Cloud (e.g. Netflix) (ipad-itunes-netflix...AWS) (Demirkan et al., 2010).
- We anticipate a ‘reconfiguration’ (Normann, 2001) of the IT value chain which moves from simple linear coordination to more complex networks.
- Leimeister et al. (2010) propose a focus on the emergence of “**cloud value networks**” which emerge “**as some kind of marketplace, where various cloud computing resources ... are integrated and offered to the customer**”.

Demirkan H, et al (2010) Coordination Strategies in an SaaS Supply Chain. *Journal of Management Information Systems* 26(4), 119-143.

Normann R (2001) *Reframing Business*. John Wiley & Sons Ltd, Chichester.

Leimeister S, et al (2010) The Business Perspective of Cloud Computing. In *18th European Conference on Information Systems, Pretoria, South Africa*.

From this perspective cloud computing must extend beyond the firewall – and hence must be hybrid or public.

- **Just as globalisation has reconfigured product supply chains**
- **Service–networks / constellations**
- **‘Cloud ecosystems’**: “the fruitful interplay and co–opetition between all players that realize different business models in the cloud computing context”\*.

\*Weinhardt C, et al (2009) Cloud Computing – A Classification, Business Models, and Research Directions. *Business & Information Systems Engineering* 1(5), 391-399.

## We see the emergence of a cloud-corporation...

- *“As services become more plug and play it will be the ingenuity and the inventiveness of the client and the client’s integrator ... to be able to configure capabilities that will enable the client to do different things in different places than they’ve ever been able to do before”*  
[Senior Manager – Accenture].
- *E.g. Clinical profiling: — “You need that data in the centre. You need big data for real time clinical profiling, which is the next generation of stuff, which is very clever, but nobody has cracked it yet”*  
[CEO – Health Cloud Provider].

## Cloud escalates the importance of **service** for the software industry as well as customers...

- **Service – not services.**
- *“[with cloud] you do not have all the buffers between you and the customer that corrects problems, like consultants or internal IT people. You have the direct link with the customer and that means that you have to change yourself to make a software service really ready... now we deliver a service ... That means day-by-day every hour we are faced with customer needs and that also educates the software vendor to become really a true service player in terms of high customer service, higher than ever before in terms of easy-to-use and flexible software”*

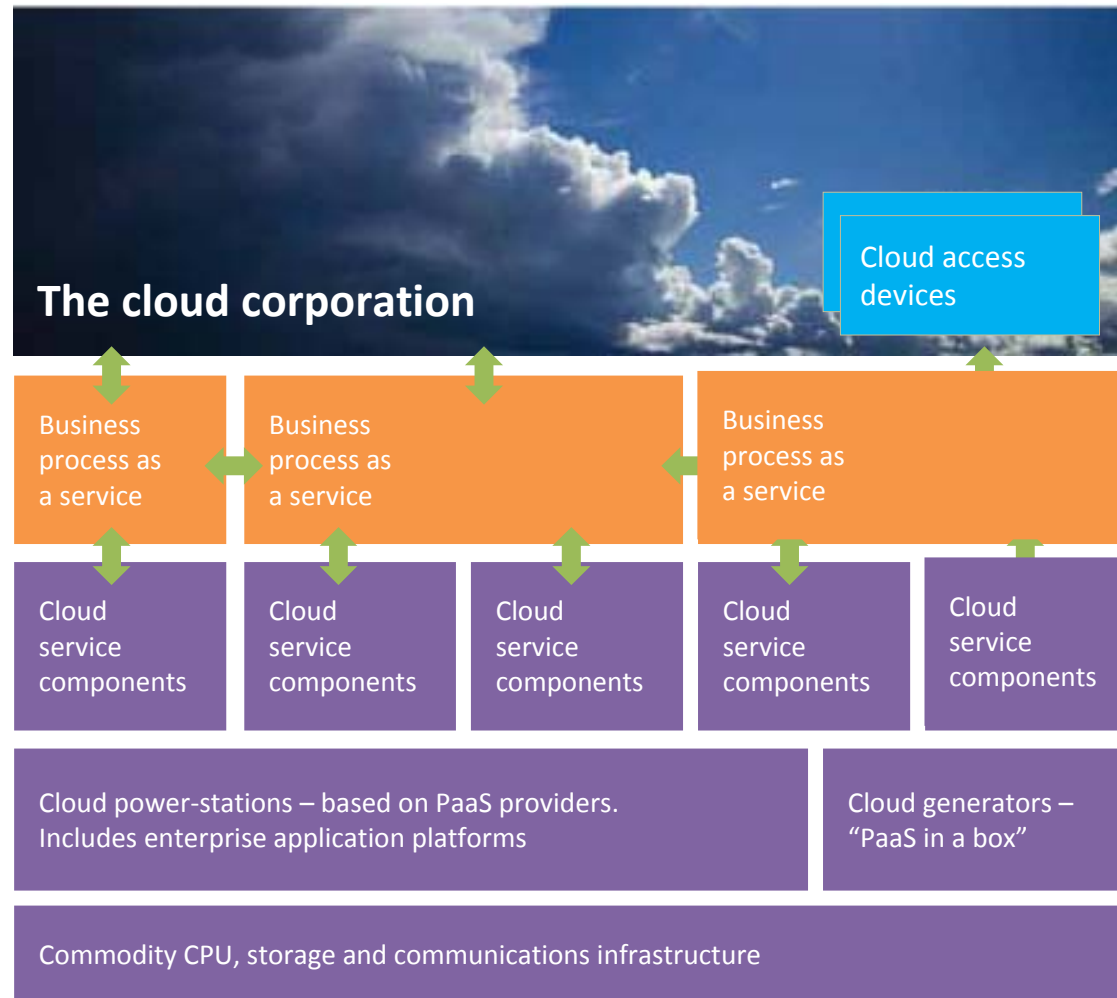
**[Wolfgang Feisst, SAP]**



Improving service thus becomes key to the IT function.

- Frustration with the limitations of existing in-house IT functions.
- **Collaboration:** cooperative, commercial arrangements towards a common enterprise and shared goals.
- *“These technologies are enabling companies to do things they never could have imagined before. It changes the financial model of the company. It changes the talent model. It changes just about everything” [Jim Harris Accenture]*

We therefore anticipate a different form of organization based on Cloud Computing – the “cloud corporation”



## The Avon case study demonstrates facets of this new “cloud corporation”

- 100,000+ sales leads and millions of representatives. Salesforce.com integrated with Data Warehouse.
- The “Avon lady” → networked millennials
- Facebook integration – *“they are on Facebook all day. And they have huge networks of friends... Its just going out through their network...”*
- Integration of sales, network and platform using salesforce, facebook and force.com
- User-led innovation and service provision
- Collaboration and elasticity

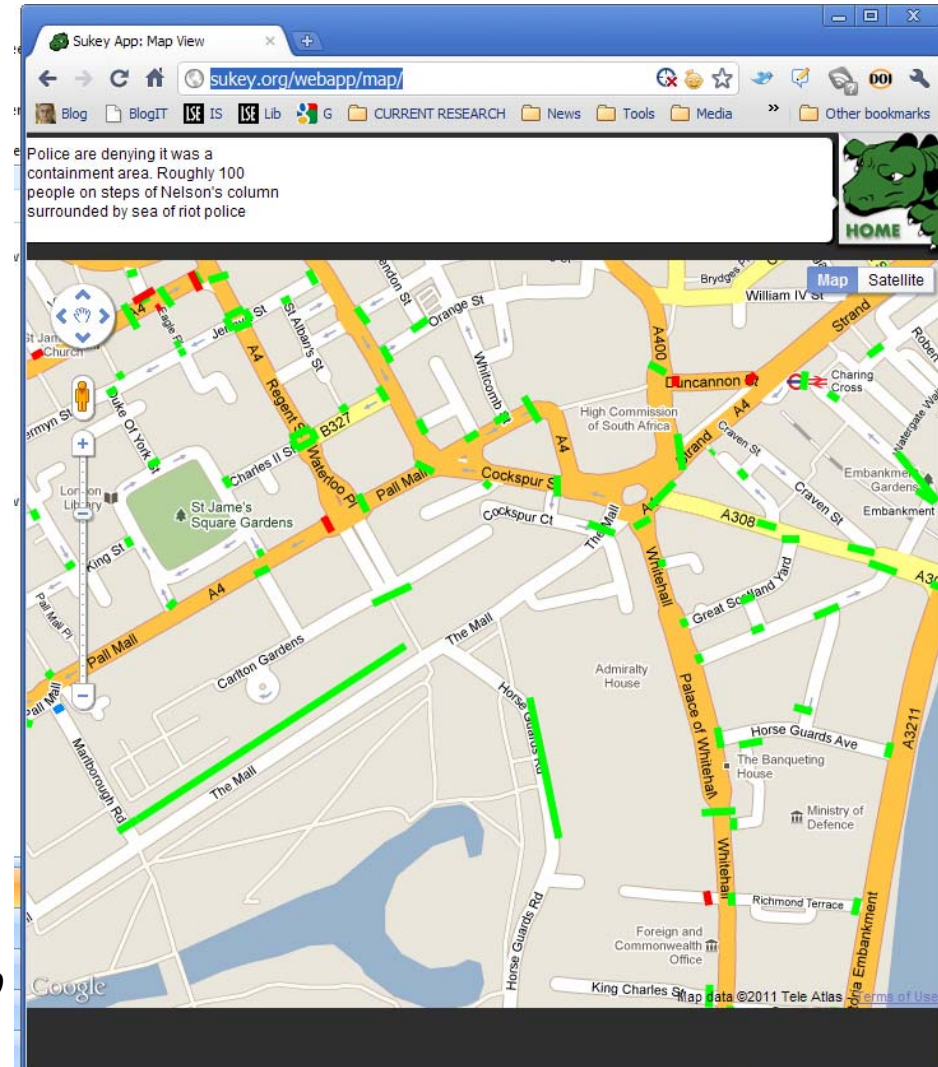
Sukey.org - created during student protests London, 2011.

Polly put the kettle on,  
Polly put the kettle on,  
Polly put the kettle on,  
We'll all have tea.



Sukey take it off again,  
Sukey take it off again,  
Sukey take it off again,  
They've all gone away

***"Fleeing riot police on foot? There's an app for that ..."***



The CERN case (particle physics community) shows potential new forms of collaborative practices.

- Using Grid computing for analysis.
- Loosely connected collaborations.
- Innovate, mash-up and exploit technology
- Focus on shared vision and goal
- “Scaled Agility”\*





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