Data Centres Round Table with DIGITALEUROPE
Wednesday 15th June 2016|11:00 – 14.00

DIGITALEUROPE. 14 Rue de la Science, 1040 Brussels

MEETING SUMMARY AND KEY ACTIONS

1. Introductions and welcome

Emma welcomed everyone and explained the objectives of the meeting: to allow DIGITALEUROPE, techUK, other NTAs and individual operators to update each other on current policy activities relating to data centres. The meeting had been opened to other industry representatives. A techUK policy overview had been circulated and was tabled to help structure the discussion.

2. Recap of Data Centre Policy Priorities

- Emma reminded members that the European sector had been surveyed before the 2015 DataCloud Congress in Monaco by Broadgroup, Bird&Bird and techUK. The results identified that the main concerns of the sector were energy costs and regulation. Rapid regulatory change was also a concern especially in the areas of cyber security, data protection and environment. Regulators did not understand the industry and the industry did not understand the policy process.

3. Taking Stock: Status of progress on policy matters

- Shane updated members on data related issues, starting with GDPR and its implications for operators, the latest developments on the EU-US Privacy Shield regarding cross border data flow, and the digital single market, a major initiative with much of relevance to operators.
- Emma and other participants updated members with the outcomes from the breakfast meeting on the energy impacts of digital living (more substantive meeting notes are available from emma.fryer@techuk.org).
- Emma updated members on energy, carbon and environmental legislation with the help of Kurt, Klaus and Jay. There was plenty of existing material that could be shared if necessary.
  - **ACTION on EII: compare notes on EII discussions and concessions. Establish the respective roles of MS govts and the Commission WRT the EII listing and EII concessions.**
  - **ACTION on EU ETS: NTAs to keep up the pressure and inform each other of progress. Those with regulators applying pragmatic approaches to share experiences. Regulators do take note of each others' practices.**
  - **ACTION on Lot 27: Watch and wait.**

4. Perspectives and Gaps

- Operators provided individual perspectives. Piecemeal legislation was problematic and costly for operators with sites in multiple member states. The sector had grown organically and was now coming under the regulatory radar. A collaborative approach would help.

5. Other issues to consider: Reputation, self regulation and standards

- Operators felt that the sector meant different things to different people and needed to be clear about its identity and be strategic in its thinking. Self regulation and standards were important but the

landscape was complex. Standards often failed to recognise that data centres were systems: marginal improvements in product efficiency would have little benefit if utilisation was low.

6. Resources round up

- ETSI published a list of relevant standards. A number of EU funded projects had been relevant to data centres. It was worth finding out whether they had delivered useful outcomes.
  1. **ACTION on Standards: Locate and circulate ETSI overview**
  2. **ACTION on Projects: Source information on relevant projects including outcomes**

Attendees

Claire Darmon	Apple
Philippe Luce	CESIT
Klaus Verschure	Cisco
Steve Hone	DCA
Peter Judge	DCD
Stijn Grove	DDA
Sylvie Feindt	DIGITALEUROPE
Michiel Eielts	Equinix
Bill Echikson	E+Europe
Laurens van Reijen	EUDCA
Steve Strutt	IBM
Kurt van der Herten	DE (DSPG Chairman)
Peter Gibson	Intel
Jay Taylor	Schneider-Electric
Emma Fryer	techUK
Shane Murphy	techUK
Graeme Brownlie	Vodafone

Apologies

Garry Connolly	Host In Ireland
Judith Ellis	ECO
Christian Herzog	BITKOM
Per Morten Hoff	IKT Norge
Andrew Jay	CBRE/techUK
Apostolos Kakkos	EUDCA
Alex Rabbetts	MigSolv / EUDCA
André Rouyer	Gimélec

FULL NOTES FROM DISCUSSION

1   Welcome

EMMA: Welcome: the objectives of the meeting are the same as the informal catch-ups that techUK has with DE on a regular basis – to update each other and relevant NTAs with progress on policy priorities and other activities relevant to data centres. The meeting has been opened to external stakeholders so we

can update other groups on activity and assess whether there are areas or issues where we should be collaborating. It is good to see the European sector so well represented.

2   Recap of policy priorities

AIDE MEMOIRE: (EMMA)

An aide memoire summarising the EU policy priorities for data centre operators had been circulated and a tabled version would form the basis for the discussion. It was not exhaustive and those present were welcome to add furh

SURVEY RESULTS (EMMA)

Broadgroup / Bird&Bird / techUK surveyed the European industry in 2015. The survey results revealed the following policy priorities for operators. (See also aide memoire)

- Energy costs
- Regulation and regulatory change
  - In particular, the industry is concerned about:
    - cyber security,
    - data protection and privacy
    - environmental regulation (including carbon taxes).
- Regulators don't understand the industry
- The industry doesn't understand regulators
- The industry needs to improve awareness of key regulation (in the UK techUK runs a regular risk radar session)

3a   Policy update: Data Related Issues

GDPR (SHANE)

GDPR is the most revised piece of legislation. It has been agreed and it is not up to the different Data protection authorities to address the various issues. The establishment of the EU Data Protection Board is a key development and the way it will operate will define the data protection landscape for the next 20 years. It will oversee a more harmonised regime, it will step in on issues and make resolutions and decisions that are legally binding. This one stop shop will be a big source of contention. It will need to be as streamlined as possible because from the very start it will be presented with a huge number of issues, legal challenges, requests for certainty on different aspects across the board.

EU/US Data Transfers (SHANE) **NB The EU US Privacy Shield has since been AGREED**

This is a very live issue. The Safe Harbor Agreement was invalidated late last year after a legal challenge. It has caused huge problems for EU US data transfers. Now we have the Privacy Shield agreement which looks to address many of the issues raised by the court. This includes an independent route to redress for the citizen in the case of data abuse where an ombudsman service will be involved and controls over movement of data outside the areas in the agreement. Concerns about retention of data also related to the scope and scale of UK surveillance and ability to target individuals. A number of concerns have been addressed but the Agreement is facing challenges from member state data protection authorities and data protections supervisors.   We understand that a text will have been circulated to the member states for their consideration on June 29th. This will be followed by a vote by the College of Commissions on July 5th and that will come into force and seal the deal for an adequacy provision.

Note that the Privacy Shield covers ALL data transfers regardless of the legal mechanisms, not just those done under adequacy, so those with Binding Corporate Agreements or Stnadard Contracts Clauses are also covered. This helps protect these other mechanisms from legal challenges. A challenge is currently underway in Ireland on Standard Contracts and the Irish Data Protection Authority has published a preliminary draft opinion to the effect that they do not believe that standard contract clauses stand up to the test of the court.

The primary priority is to restore legal certainty. We now need to wait and see how the member states react. There is likely to be support provided that the concerns of the data protection authorities have been adequately addressed in the revisions. It will be subject to qualified majority voting.

DSM: Digital Single Market (SHANE)
This is a massive piece of work that basically is an umbrella term for anything the Commission decides to do on technology and digital. Forthcoming initiatives include free flow of data. The Commission is drafting a communication asking what people would like to see this initiative tackle. This may include targeting member state restrictions on data localisation and remove laws that are put in place to restrict data flows.

There is another part entitled "emerging issues" under which the Commission is reserving the option to include legislation on other things which could be a whole basked of issues. These may range from data ownership, how we deal with non personal and machine to machine data. This is very significant if the Commission wishes to pursue a regulatory route on the free flow of data initiative.
So those are three issues.

Q&A
EMMA: What I hear from our operators is "well, this is my business model, at what point in the stack should I start worrying? How do I know if this stuff affects my operation?

SHANE: A good rule of thumb is this: if you touch personal data in any shape or form, it doesn't matter where you are in the supply chain, you need to be aware of this.

STEVE H: Do operators have an obligation to warn their customers who occupy / host services in their facilities?

SHANE: There is no obligation to keep customers informed but you are directly liable under the regulation for the data subjects. It's probably best to take a proactive approach to ensure customers are aware of GDPR and compliance obligations. This is a risk that you now have to absorb that did not previously apply.

BILL: regarding free flow of data what is your view? And what do you think will happen regarding data ownership?

SHANE: The UK is supportive of the Commission's intentions regarding free flow of data. However there are issues to be addressed such as what will be the recording mechanism? Will business be required to report on their customers? There are some difficult discussions to be had here.
On the second point, that is the €million question – how far things may go with data ownership. Feedback so far is that at the initial stakeholder workshop the concept of data ownership has been pushed back very hard. Just the introduction of this term could have implications far beyond the intention. There is political momentum behind this but the term data ownership means different things to different people so discussion

can be unproductive. It has to include access, control, understanding and management. We will watch this very carefully.

JAY: have you any sense of where the model contract will go?   SHANE: Afraid not!

MICHIEL: this seems to me more of a political agenda than an economic agenda. In business we are more aware of economic agendas so perhaps this is timely. Our industry is relatively young, 20 years or so, when compared with the slow moving legislation. Is there realisation in the discussion that we are solving future problems? Dialogues is a very important key to informing policy and ensure the future of the sector. Balance is important. In the Netherlands we started the DDA only a few years ago so we can now input to the discussion. Is this politically driven?

SHANE: There is strong appreciation in the Commission of the power of digital data to tackle those issues that you are talking about and we need to continue to deliver that point very hard. Some problems and barriers that we thought originally were insurmountable are being undermined by innovations in digital technology. Yes, there are concerns that we still need to address and yes they tend to be manifested at the political level. Therefore the important thing is to equip politicians with evidence points they need to address their concerns. Digital technology drives not just productivity and financial services but small farmers benefit from big data analytics in areas like weather forecasting. These are narratives that techUK is very proud to put forward. I completely agree with your point but the appreciation is there and these growing concerns are manifested politically.

EMMA: The last data related item is NIS, which relates to data security and an obligation to report breaches. This is now at implementation stage. The work is being led in techUK by a colleague. Is this something that European operators are aware of?

BILL: there are common sharing frameworks on breaches of all kinds elsewhere in the world - Canada, Japan, USA but this is not seen in Europe.

3b   Policy Update - Energy Related Issues

Energy or Electro-Intensive Industries: EII (EMMA)
Energy Intensive Industries: EII are eligible for some degree of compensation for non commodity energy costs on account of their vulnerability to overseas competition. Non commodity costs are taxes, levies and charges on power to fund investment in renewables etc. The Commission maintains a list of EIIs. The sector does not currently have EII listing, though in the UK we have tried. The criteria are rather unfriendly for data centres. This is something that has to be approved at European level so a successful application in one member state would set a useful precedent for other member states.

DISCUSSION
LAURENS/ BILL: Wallonia and Luxembourg both have tax concessions for EIIs.

PHILIPPE: This is a discussion on electro intensive industries that is underway in France. We have submitted data from our six largest sites to negotiate exemptions but we have to deal with multiple ministries so it is slow and complex.

GRAEME: There is a variance of unilateral policies between countries and in pricing because of the different generation mixes. So applying for exemptions across the board won't work in countries with a high proportion of renewables in the energy mix. Multinational operators struggle with these variations.

Data centres are often penalised for regulations not targeted at them. The principle at EU level is about tackling global direct emissions. Unlike many industries we are indirect emitters because we use electricity. So in some countries requests for discounts are less relevant because we are reliant on the generating mix in each location.

Other countries with exemptions are Sweden (97% reduction in energy taxes), Finland and Norway.
ACTION: compare notes on EII discussions and concessions. Establish the respective roles of MS govts and the Commission WRT the EII listing and EII concessions.

EU ETS (EMMA)
EU ETS is aimed at reducing carbon emissions and captures data centres although they are not the policy target. Emergency standby is covered because the Commission did not differentiate it from standby required to provide generation for the grid. Carbon allowances for data centres are usually a few hundred Euros but compliance costs may well exceed €30,000 per site.   For the current phase, up to 2020, the legislation cannot be changed so we have mitigated the impacts for members by negotiating a simplified way to measure fuel use in generators. We have also alerted the sector.
For phase IV, the next phase, we are negotiating a *de minimus*, so that sites below a certain emissions threshold are exempt. We are not very optimistic about this because even if it were granted operators would still have to measure emissions to demonstrate that they fall below the threshold. Member states can offer opt out schemes so there is emphasis at MS level to encourage them to be pragmatic. Associations are already working productively together to lobby individual governments who in turn will make the case to the commission.

ACTION: NTAs to keep up the pressure and inform each other of progress. Those with regulators applying pragmatic approaches to share experiences. Regulators do take note of each others' practices.

BEMP: BEST ENVIRONMENTAL MANAGEMENT PRACTICE (KURT)
BEMP is a JRC initiative that is supposed to provide a best practice toolkit / sectoral rules for the EMAS scheme (a voluntary environmental management and audit scheme).   What has not been made clear is whether this will become obligatory or not. The JRC are internal consultants to the Commission and have been looking at all kinds of things, many of which were barely relevant. Industry stakeholders suggested that the consultants used the EU Code of Conduct. They were reluctant and instead produced a comparison table. No further developments yet but there is a risk that data centres will be regulated as a sector at some point. The Code is administered by JRC in Ispa and the BEMP is run from Seville. JRC do not appear to communicate internally.
EMMA: Would this merit a proactive response before it is too late?

ERP LOT 9 for Servers (KURT)
This is part of the EcoDesign directive which aims to improve the environmental performance of products at design stage. It is systematically working through products with any environmental or energy impact. Originally Lot9 targeted servers, storage and networking equipment but industry has successfully negotiated with the Commission to narrow the scope. Preparatory studies by consultants backed this view up and took out networking. An additional study found that metrics were not sufficiently advanced for storage

equipment. The industry objective was to limit the actual regulation on servers to information requirements rather than threshold levels.   The sector suggests an ASHRAE indication and one on the power supply.

JAY: This makes sense: we are two years away from a workable metric for servers – we are working on it. Colleagues in Green Grid are trying to establish whether a metric can be defined. It is tricky. For instance, emphasis on idle power will mean that servers will be produced that meet an idle power requirement but there will be a cost in terms of performance.   We know what a good metric will look like but it is not yet available.

EED Article 8 (EMMA)
This is a policy of fairly low ambition targeting energy efficiency. Companies above a certain size are required to conduct an energy audit signed off by a competent lead assessor. The main issues are differential implementation which adds significant cost for operators, plus the fact that for energy intensive companies or firms that are energy conscious, it will add no benefit but will impose significant compliance costs.

KURT there was a meeting on implementation of Article 8 last year. Because it is a Directive there are different requirements in member states.

GRAEME: this policy seems out of sync with other approaches driven by environmental best practice. It applies to the whole estate so for a colo provider that is one thing but we have 80,000 staff, switch sites, call centres, customer contact centres, data centres and it is a huge and costly undertaking with no benefit. Companies therefore spend say £30K on something completely unnecessary but which supersedes more useful things that could be done that deliver payback.

3c   Policy Update: Other
LOT 27 on UPS (KLAUS?)
LOT 27 is part of what was EUP (Energy using products) and is now ERP – Energy Related Products). The legislation aims to improve the energy performance of individual products. However, for complex operations the interface of these vertical requirements with other horizontal regulations can present problems. Product standards like these should generally be addressed at the point of manufacture and this is where this directive is aimed. One problem is that in a complex environment like a data centre installing the most efficient products does not necessarily deliver the best outcome if the system is not well designed, or is not working optimally. Utilisation for instance is more of an issue than product efficiency.

JAY: Currently nothing is happening. Initial issues were that the proposed standards allowed insufficient energy to operate the display so operators could not trouble shoot or see what was going on. This in particular represents the product focus of this activity – the system approach is missing.

Other approaches addressing UPS efficiency are EU CoC and Energy Star. Too proscribed an approach will not improve energy efficiency. The market has a need to make opex and capex trade-offs. At the design point operators should have a choice or they may pay premium prices for products that will deliver no value. Regulations tend to lag behind product development, particularly in technology applications. Servers have become on average 3% more efficient year on year and regulations have not kept up. UPS are now at 98-99%. Some sanity checking is needed.
ACTION on Lot 27: Watch and wait.

Cyber security: The basic act of protecting equipment requires some level of active operation to control the network monitoring software. Energy has to be allocated to these devices. This does not relate to the energy involved in the intended use of the products so it impacts the apparent efficiency of the operation.

4   Operator Perspectives

MICHIEL: for a multinational, all these have to be on our radar and dealing with them on a country by country basis is painful and costly. Any pan-European operator has similar problems and we lack a structured way forward. So it is good that this kind of initiative is bringing operators together. Our industry has grown organically and has not been the target of regulation but it is now so economically important and is such a significant part of the infrastructure that we need to communicate what we are doing and compare notes.

GRAEME: There is a lot of activity on refrigeration and compressors and energy star and while the principles are good and there are huge benefits in terms of individual products. However, in a more complex system, a 1% efficiency gain on one piece of equipment will not amount to a hill of beans if the facility is only loaded at 26%. As a community it would be very helpful to have a proactive positive voice. We are already self-regulating through the Code of Conduct. Regulation targeted at servers or other individual products is out of sync with the realities of the sector because it fails to account for those products operating within a complex system. It loads cost into the products, there is increased level of policing and R&D to meet futures aspirations, so customers pay more and in some cases this delivers nothing then the costs outweigh the benefits. It does help however to reduce or eradicate the inclusion of harmful materials or precious resources but in the main operators see complexity and cost for invisible returns.

JAY: Liquid cooling systems are very efficient but cannot be deployed in places like Texas, Saudi Arabia, UAE, so again proscription can be counterproductive. The obligation should be for operators to deliver optimal energy consumption for a given load. So it is all about ensuring that the system delivers efficiency for the workload.

STEVE: This sector has a much faster rate of technology change than other sectors. So when you make capital investments you buy the most efficient at that point, knowing that the point moves rapidly.
MICHIEL: Smaller operators and those providing regional services outside the major markets have a very important role to play in the industry. They are very vulnerable to over-regulation which forces them out of these markets.   The balance between economically justifiable and technically feasible should always be maintained.

JAY: For an SME the landscape is complex: all the requirements above are in addition to the usual operational regulations and standards – building codes, electrical codes, components, power distribution, residual current, electrical safety, etc.

5   Other considerations: Reputation, Standards, Resources

REPUTATION AND POSITIONING
PETER: In terms of discussing and presenting the sector we struggle to define a data centre. When is a data centre a data centre? When is a telco a telco?

GRAEME: we need to be strategic in terms of governance and how we contribute to the digital economy, whether regulations and KPIs impact our ability to compete internationally, the issues of opex, capex, energy

intensity, connectivity, provisioning etc. We need to make sure our messaging doesn't get lost. The sector is growing at a rate that gives the perception that there is a lot of existing capacity ready to be used. A lot of our activity is in refurbishment to treble capacity within existing footprints. Standards and standardisation are desirable but only when they deliver a level playing field and allow customers and operators to differentiate the wheat from the chaff. Standards are not necessarily a good way to reduce unit costs and the lead time for standards can be very long and resource intensive.

Standards and projects
KURT: ETSI have produced an overview of the standardisation landscape.
JAY: ITU SC39 and others are discussing KPIs for data centres.
STEVE H: Many standards followed within the industry are higher than existing ISO standards,
ACTION on Standards: Locate and circulate ETSI overview

Members were familiar with a number of relevant projects including:
MOUSSA on SLAs – standardisation of SLAs aimed at the SME end of cloud provision
GEYSER on smart cities – not directly aimed at data centres but with strong links
ACTION on Projects: Source information on relevant projects including outcomes

Final Comments
EMMA: Thanks to everyone for attending and to DIGITALEUROPE for hosting.