Potential joint procurement of data storage and potential revenue savings

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Data Centres

We can’t build data centers fast enough

- Digital Data Created
- Data Center Capacity Available

- 2010: 1,400 (35% gap) vs 1,274
- 2015: 8,000 (45% gap) vs 4,400
- 2020: 35,000 vs 14,000 (60% gap)

Source: IDC Digital Universe Study, 2011

Proud to Deliver
www.cardiff.gov.uk
Data Centres

“Next Generation Data” established in Newport with WG Support in 2011…potential candidate.

JLL study in 2012 highlighted the potential for, and benefit of additional capacity within Cardiff, especially with an energy source.

Cabinet Report Sept 2012 supported further investigation into Data Centre provision as part of a wider Digital Cardiff drive.

Cardiff Council PIN notice 2014 confirmed market interest (but only 25 racks)
Digital economy opportunities

Creating a Digital Quarter for Cardiff…..

• **Direct jobs**
  
  – *Data centre* 140
  
  – digital research 30
  
  – community programme 18

• **Indirect jobs** Based on comparisons with similar projects the initiative could deliver between 1,000 and 1,800 new jobs over the first five years of the programme. These would be in technology, media, software, creative industries, professional services, business services, financial services, . . .

• **real boost to GVA**
Current practice

• “In house” for larger organisation…but future growth?
• Better savings if we work at scale, especially if our scale derisks the investment, or creates an investment.
• Some small scale and incremental provision happening

• Some major additions (NGD)
• Data capacity, security and continuity seem to have been the main drivers but energy is also an issue / opportunity.
Energy

- Data centres consume 50 - 100 times more electricity per square meter than an average office.

- “Between a third and half of the total operating cost of a data centre is accounted for by energy usage.” (JLL Data Centre Barometer 2013)

- “The global data centre carbon footprint has been compared to that of air travel” (Computer weekly)
Estimating the Energy Cost?

Total Weekday vs Sunday Consumption

30-50%??
Data Centre Energy Efficiency
“Power Usage Effectiveness”

PUE = \( \frac{\text{Total Facility Energy}}{\text{IT Equipment Energy}} \)

<table>
<thead>
<tr>
<th>PUE</th>
<th>Level of Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>Very Inefficient</td>
</tr>
<tr>
<td>2.5</td>
<td>Inefficient</td>
</tr>
<tr>
<td>2.0</td>
<td>Average</td>
</tr>
<tr>
<td>1.5</td>
<td>Efficient</td>
</tr>
<tr>
<td>1.2</td>
<td>Very Efficient</td>
</tr>
<tr>
<td>1.0</td>
<td>100% of power used solely by IT</td>
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</tbody>
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“Moving from a PUE of 2.2 to a best practice PUE of 1.2 would realise a saving in total energy cost of 45%”
(Northern Ireland Public Sector Shared data Centre – OBC)

And therefore cheaper for us to share data storage, meaning that we could share the efficiencies across the public sector
Design Innovation

Strategic and creative thinking?
Significant cost reduction potential?
Public sector = huge anchor to guarantee viability and possible stake in the venture?
Closing points

• Do we each know our future data needs?

• Are we able to isolate our data centre bills and carbon footprint?

• We believe revenue cost and carbon savings could arise through a collaborative carbon focussed approach, plus the stimulus for a digital economy…anyone interested ?