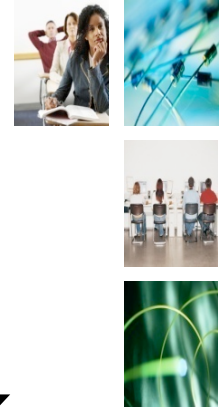


Network Access

Review and Direction

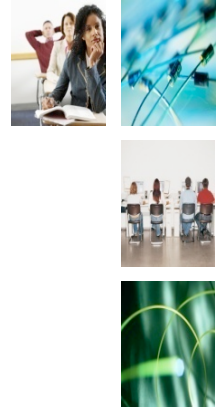
Workshop 2010

Mark O'Leary



We have a mission...

“To extend the edge of the network into learning and social spaces outside the campus, to foster mobility within and between networked environments, and to deliver JANET content and resources to the user whenever desired and wherever they may be, removing geographical and temporal constraints on the research, teaching and learning processes.”



Or, summarised:



**Any time, any
place, anywhere.**

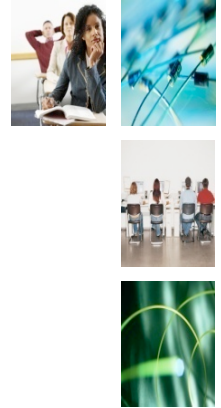
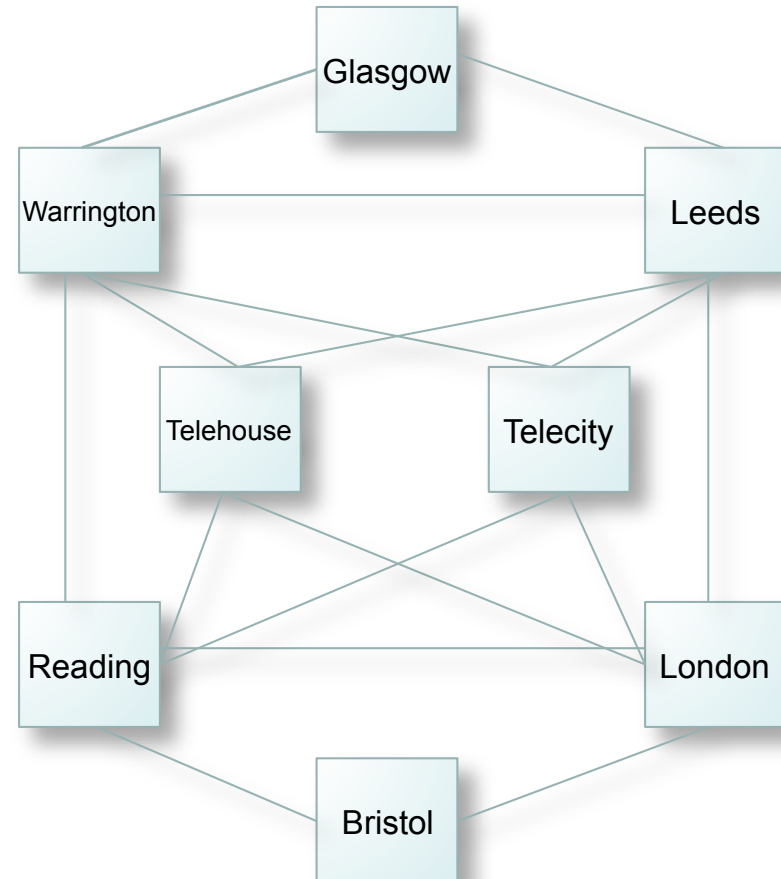


Martini Networking

**(Please contact for sponsorship
opportunities)**

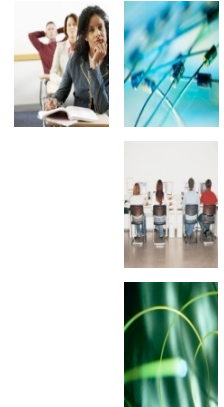
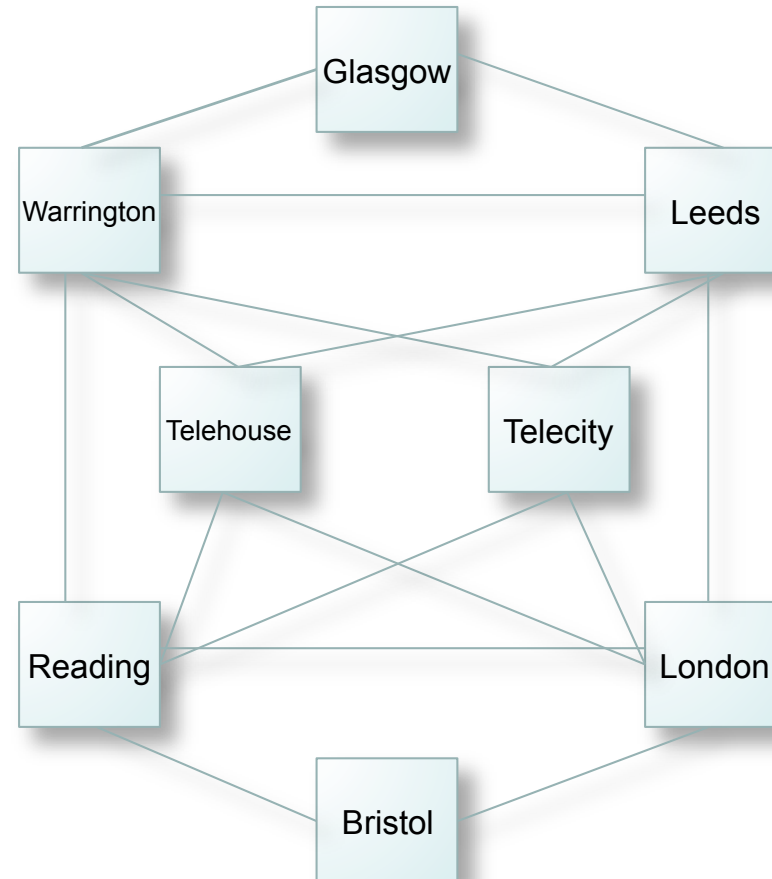
JANET

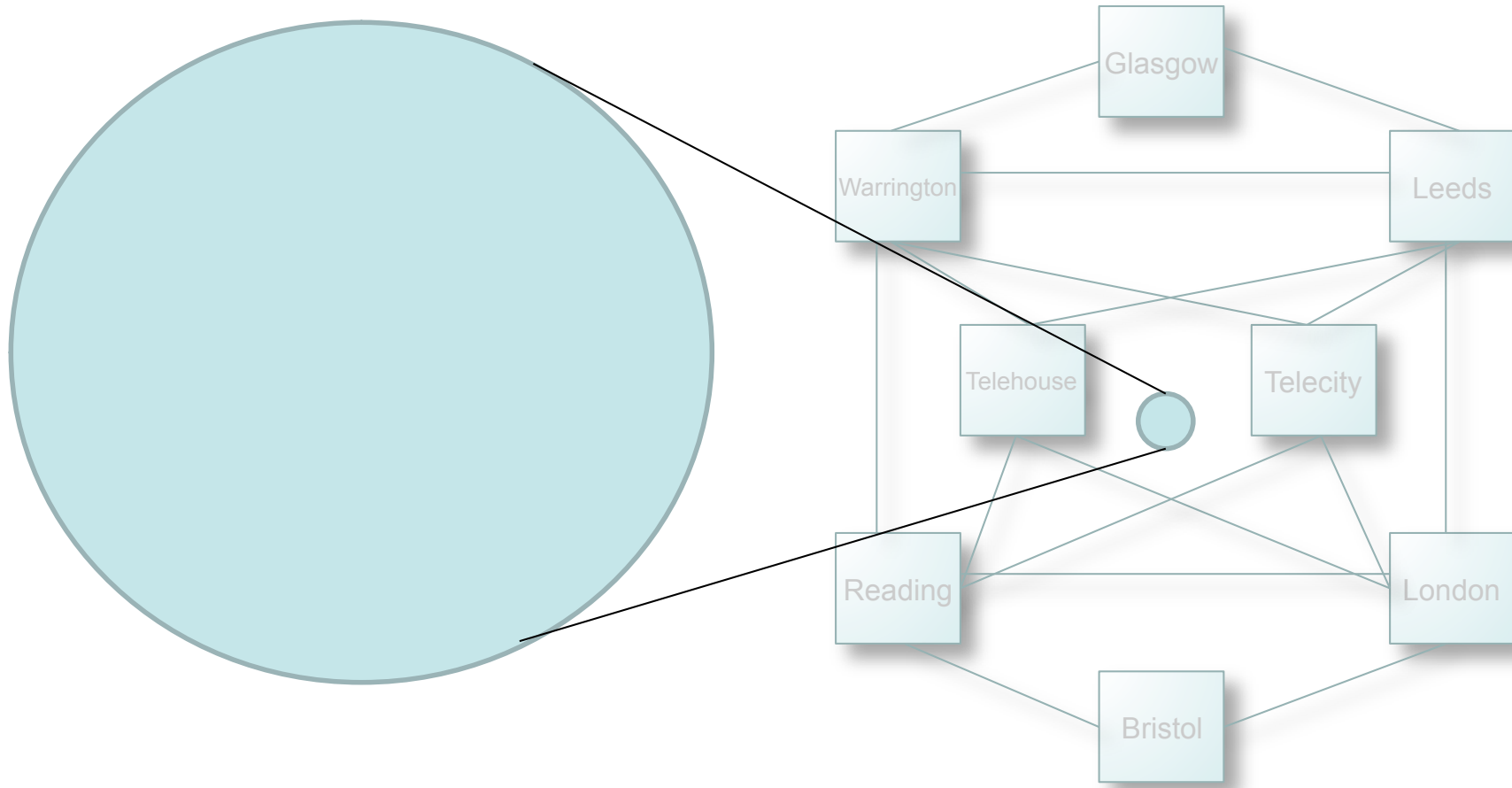
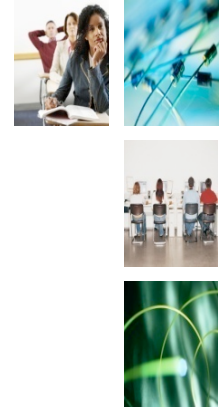
- The familiar network map...

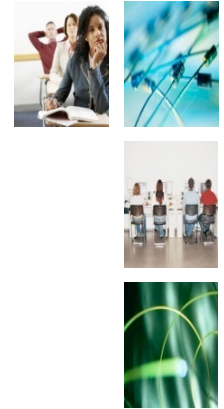


JANET

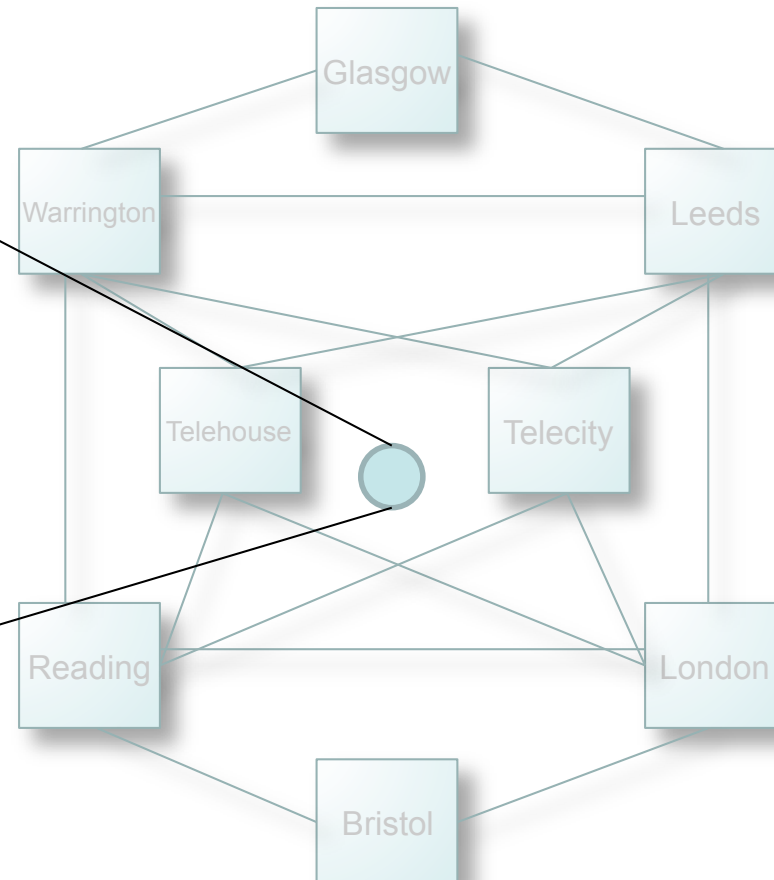
- The familiar network map...
- But what about the 'white space' between the links?

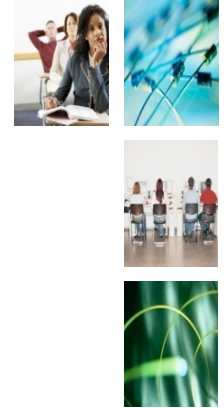




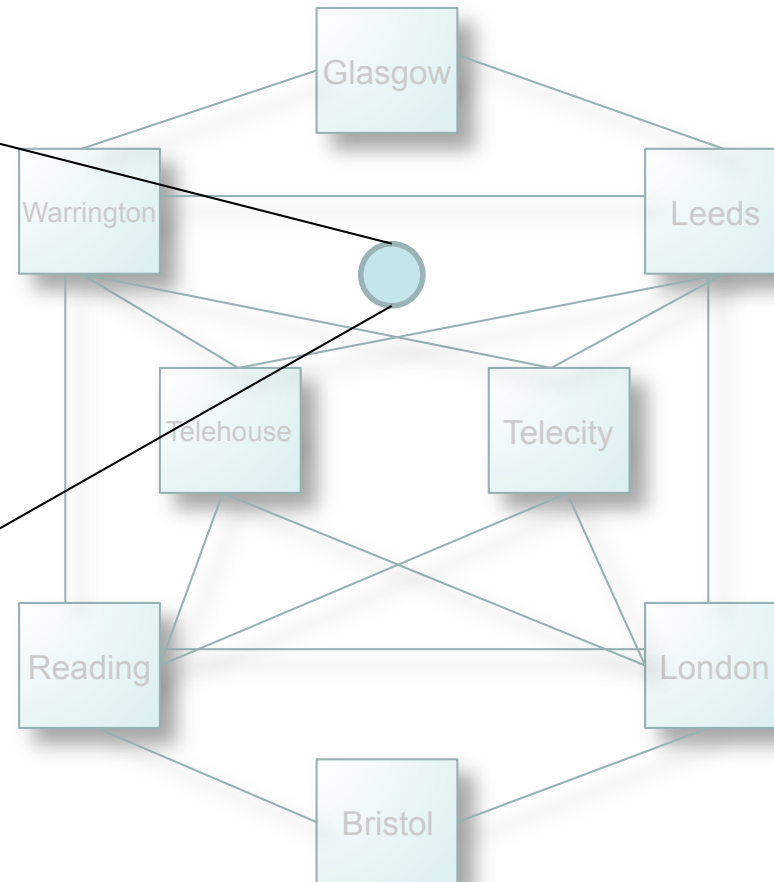


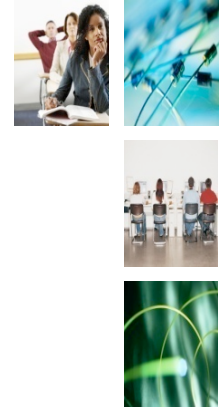
HC SVNT DRACONES!



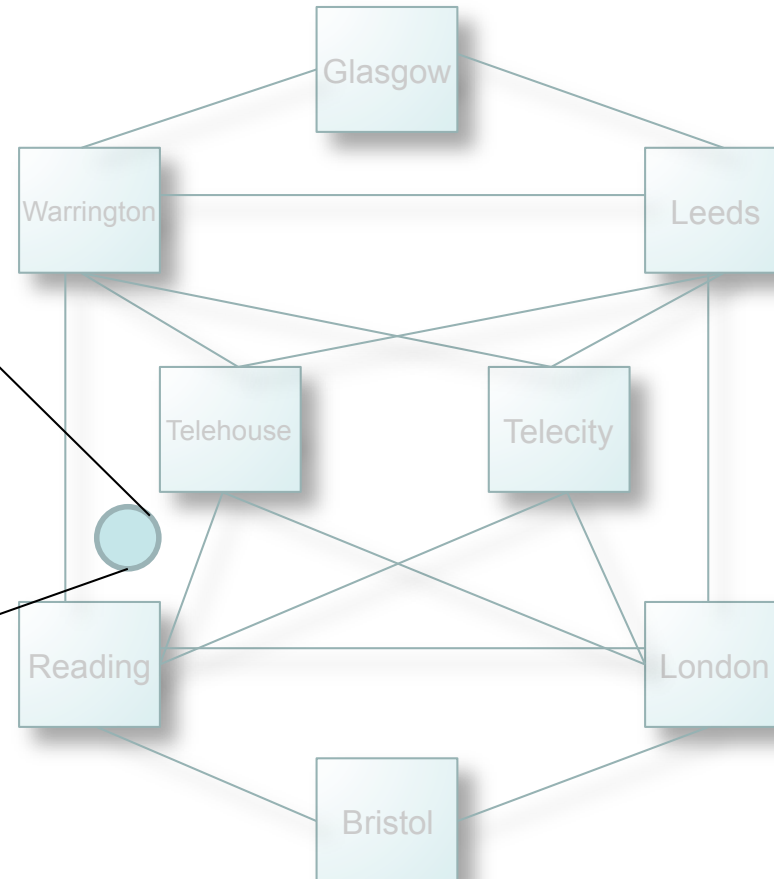


... AND OTHER MYTHOLOGICAL BEASTS



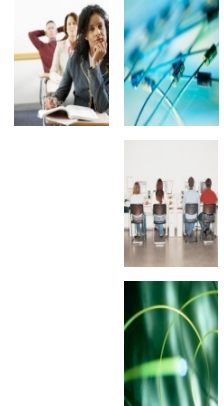


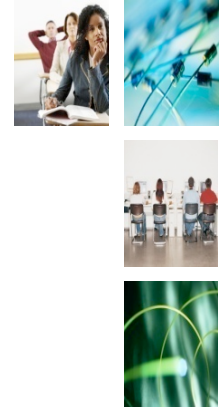
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Why bother..?

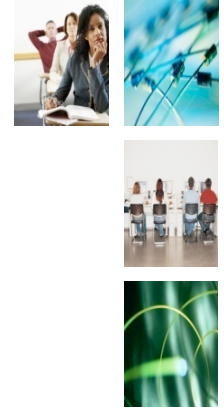
- ...isn't connecting the campuses enough?





Why bother..?

- ...isn't connecting the campuses enough?
- 82% of individuals with GCE/GCSE A to C grade have the web at home, compared with 74 per cent of those with grades D to G and 56% for those with no formal qualifications.
 - ONS 2008 Internet Access report



Why bother..?

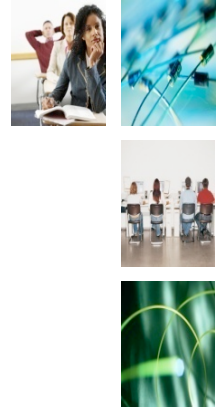
- ...isn't connecting the campuses enough?
- Schools that make 'good use' of broadband connectivity show statistically significant improvements in the percentage of pupils gaining more than five A* to C grade GCSEs in the year after broadband is installed.

- BECTA

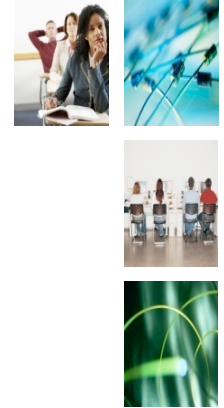
Why bother..?

- ...isn't connecting the campuses enough?
- For GCSE science, the average gain from ICT use is 0.56 of a grade.

- BECTA

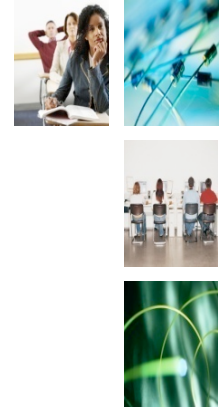


What is Network Access doing about this?



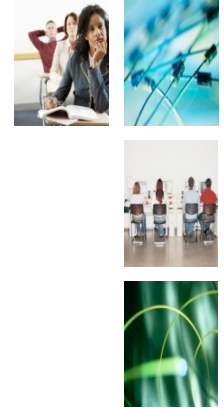
- Mobile IP ✓
- Location-Aware Wireless Infrastructure ✓
- Local Loop Unbundling ✓
- Portable WLANs
- Wireless ISP Partnerships
- Ubiquitous 3G connectivity
- WiMAX connectivity
- <non wireless stuff>

What is Network Access doing about this?



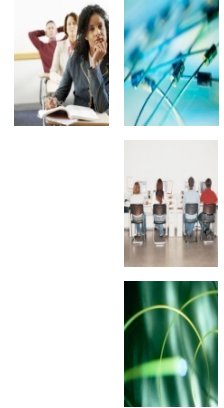
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What is Network Access doing about this?



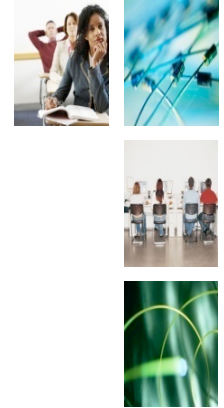
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- } **Market intelligence required!**

Consultation results: State of the market



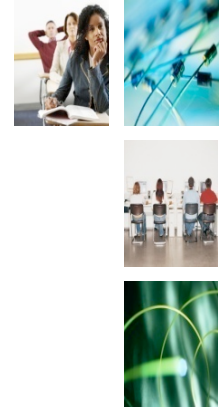
- 3 million subscribers to USB dongle services alone in Q1 2009, 12% of the total mobile broadband market
- Subscribers tend also to have a fixed broadband facility at home (>75%)
- Mobile broadband connections will reach 42.7 million by the end of 2011, while there will be 42.5 million fixed-line broadband connections by the same time

Consultation results: Dissatisfaction



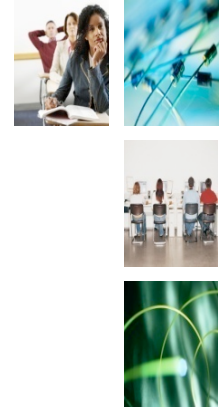
- An overriding factor (but paradoxically does not seem to be slowing growth)
- <11% find the user experience acceptable overall
- >75% find the speeds attained too slow
- ‘up to’ marketing

Consultation: JANET community



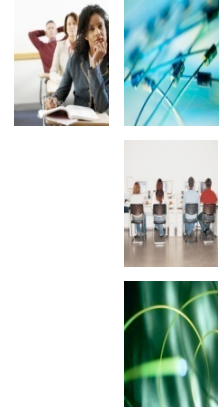
- No evidence of rural/urban divide
- Self-funded connectivity of laptops and smartphones
- No demand for value-add services
- Teaching staff resistant, students innovative

Consultation: Future market



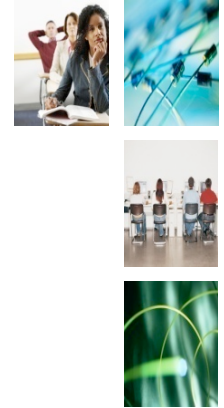
- ‘Data apocalypse’ imminent
- Market competition: little room to improve user experience
- WiMAX rollout stalled – window of opportunity closing
- LTE imminent

Consultation: JANET options



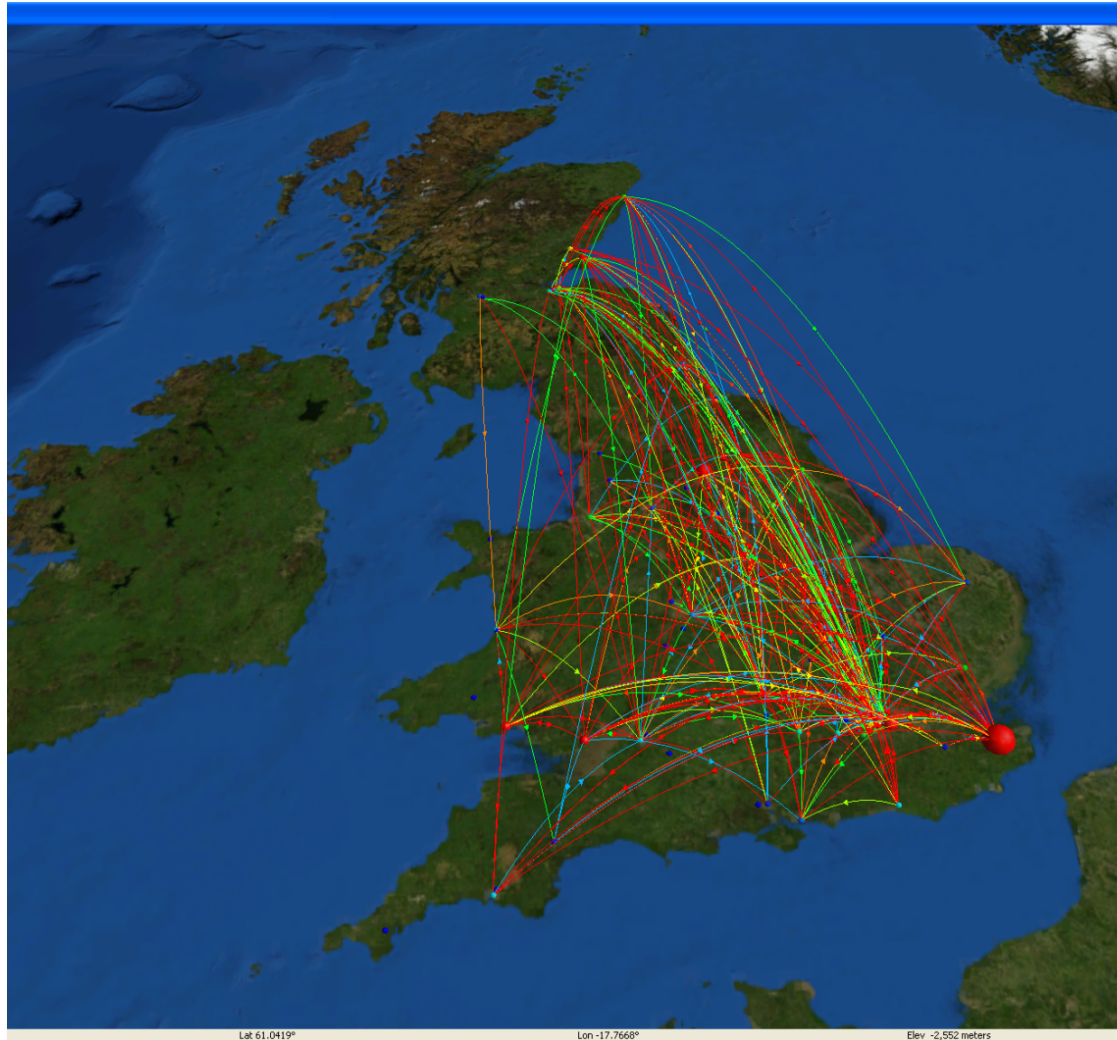
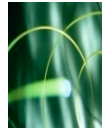
- Little opportunity for JANET to introduce a cheaper or distinctive 3G service – or even one that most users will find ‘good’!
- Focus on Wi-Fi: eduroam, ‘JANET on the move’ etc.
- Legal obstacles? work ongoing
- Planning to approach the market this summer

What is Network Access doing about this?



- Mobile IP
 - Location-Aware Wireless Infrastructure
 - Local Loop Unbundling
 - Portable WLANs
 - Wireless ISP Partnerships
 - Ubiquitous 3G connectivity
 - WiMAX connectivity
 - **<non wireless stuff>**
- } Market intelligence required!

Service Visualisation

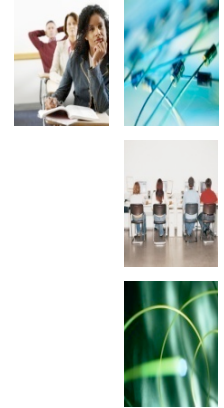


- Open source license for sharing with other NRENs

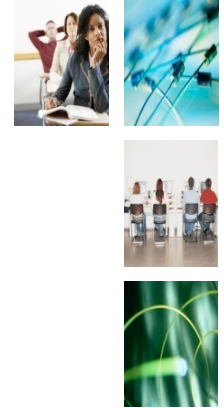
- Developing for other JANET services

- Ideas welcome!

IF-MAP?



IF-MAP



Which boils down to...

- Create new wireless-based connectivity opportunities.
- Add features to existing networks to better support mobility.
- Meet the users on their choice of platform, when and where they want to use campus- & JANET-based resources.

***It's all about 'Martini
Networking' ...***