

## **Annex G - Information on Alternative Suppliers of Wireless Ethernet LAN Extension Services**

In BT's view, Ethernet LAN extension services include both wired and wireless solutions.

This view is supported by detailed descriptions of competitor offerings. For example, one alternative supplier, NEOS, states:

“Ethernet LAN Extension uses a tail circuit to connect corporations and other organisations that do not share our POP locations... We do this using either fibre optic circuits or wireless microwave or free-space optics<sup>1</sup>.”<sup>2</sup>

This view is reinforced by Wi-LAN<sup>3</sup>, that states that “For building to building LAN-to-LAN connectivity within a given metropolitan, suburban or rural area, broadband wireless is by far the easiest and most cost-effective way to realize your high performance network... Wireless links are easier to set up as compared to existing wireline alternatives... A wireless building to building link provides throughput rates several times faster than those offered by wireline alternatives.”

Reliability of wireless solutions is comparable to that of wired solutions: “For typical installations, Cablefree attains availability between 99.997% and 99.7% depending on distance and location, and bit-error-rate of between  $10^{-12}$  and  $10^{-9}$  even at high data rates. These figures compare well with microwave or even hard-wired systems.”<sup>4</sup>

The potential distances of wireless services are well in excess of the 5km of 90% of BT's SHDS circuits. According to MLL Telecom, “A microwave point to point link is basically a narrow beam of energy between two dish antennas that are typically separated by distances of between 1 kilometre and 20 kilometres.”<sup>5</sup>



*CableFree unit on 2m tower mount to create line-of-sight for a 100Mbps LAN-LAN extension link over 1.2km. Installed UK 1996*



*100Mbps Data link installed for major financial institution, connecting remote offices in Reading, UK. Installed 1998.*



*A typical Neos wireless microwave installation*

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<sup>1</sup> <http://www.angelfire.com/nd/ramdinchacha/APR01.html>

<sup>2</sup> <http://www.neosnetworks.com/portfolio/gige.html>

<sup>3</sup> [http://www.wi-lan.com/library/awe\\_enterprise\\_folder.pdf](http://www.wi-lan.com/library/awe_enterprise_folder.pdf)

<sup>4</sup> <http://www.cablefree.co.uk/cfqaquestions.htm>

<sup>5</sup> <http://www.mlltelecom.co.uk/white.htm#keyfeat>

<sup>6</sup> <http://www.cablefree.co.uk/imagelib17.htm>

Suppliers of wireless Ethernet LAN extension services include Wavelength Solutions<sup>7</sup>, Neos, MLL Telecom<sup>8</sup>, Cablefree Solutions<sup>9</sup>, 3-t.co.uk<sup>10</sup>, LGP Allgon<sup>11</sup>, Proxim Wireless Networks<sup>12</sup>, Networks by Wireless<sup>13</sup>, and APC Solutions UK<sup>14</sup>.

Many of these suppliers offer case studies (see for example the South Wales MAN<sup>15</sup>, a Vauxhall dealership<sup>16</sup>, and fast Ethernet LAN extensions<sup>17</sup>). These reveal that wireless Ethernet LAN extension customers are drawn from many areas of the economy, including central and local government, schools, colleges and universities, hospitals, retailers, fixed and mobile telecommunications firms, ISPs, and financial institutions. For these customers, wireless solutions offer data rates up to 1.5Gbps, rapid deployment, no requirement for trench digging and long runs of fibre-optic cable, and no line rental or connection charges.

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<sup>7</sup> <http://www.wavelengthsolutions.co.uk/>

<sup>8</sup> <http://www.mlltelecom.co.uk>

<sup>9</sup> <http://www.cablefree.co.uk/>

<sup>10</sup> <http://www.3-t.co.uk>

<sup>11</sup> <http://www.lgpallgon.com>

<sup>12</sup> <http://www.proxim.com>

<sup>13</sup> <http://www.networksbywireless.co.uk/>

<sup>14</sup> <http://www.apcsolutionsuk.com/index.cfm?page=wireless>

<sup>15</sup> [http://www.rsc-wales.ac.uk/Powerpoint from Gregynog 2002/SWMAN2 Progress Report.PPT](http://www.rsc-wales.ac.uk/Powerpoint%20from%20Gregynog%202002/SWMAN2%20Progress%20Report.PPT)

<sup>16</sup> <http://www.apcsolutionsuk.com/index.cfm?page=casestudy&action=viewcasestudy&id=7>

<sup>17</sup> [http://www.cablefree.co.uk/casestudies\\_enterprise.htm](http://www.cablefree.co.uk/casestudies_enterprise.htm)