Report to LMN

Pilot implementation of BT Openzone at the School of Oriental and African Studies

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Summary

SOAS installed and ran a commercial wireless network, BT Openzone, over its existing wireless infrastructure during 2008. There were considerable setup pains associated with this service centring on the contract and the billing process. The service itself took some time to install but once working proved reliable. The income from the service rose to the point that it paid for the BT support costs and gave a surplus to cover the minimal in-house costs associated with the service.

Timescale

February 2007:	meetings with potential suppliers began
August 2007:	BT was selected and an agreement signed
November 2007:	BT Openzone service went live at SOAS
May 2008:	the end of the 6-month pilot period
September 2008:	the pilot was extended to further monitor the use and economics of the service once initial billing problems had been eliminated.

Background

The LMN Business Development Group's sub-group, the Wireless LAN Group, investigated the possibility of implementing commercial wireless services at Member institutions during 2006/7. Three markets were identified as having potential for a wireless service:

1. To provide a convenient service to users without either institutional accounts or Eduroam credentials;
2. To provide a managed wireless service in Halls of Residence;
3. To provide a managed wireless service in institutions, especially smaller institutions, that do not have an existing wireless infrastructure.

Although several institutions were identified to run a pilot for each of the above headings, the only service that was continued to completion was item 1 at SOAS.

SOAS identified two categories of user that did not have network accounts:

1. **conference visitors**, numbering about 5,000 per year, who are typically on premises for between 1 and 5 days and who need Internet access for conference activity and for business communications;
2. **day visitors to the library**, numbering about 9,000 individuals making about 32,000 day visits per year.

Setting up accounts for these users would produce considerable overheads with little income to support it, which is why SOAS was interested in examining an alternative solution.

Selection of a partner

Initial contact was made with potential providers early in 2007. BT was selected as preferred partner since there was potential to bundle several services (such as wireless, broadband and mobile) together that could produce savings for students in

particular. It turned out that BT restructured its business with the specific intention of creating barriers between the different arms of its enterprise to the extent that they operate as separate organizations. This has meant that the apparent advantage of using a large organization like BT was no advantage. In fact, the ponderous nature of BT's business processes proved to be a barrier that considerably extended the implementation of the service.

To promote the introduction of BT Openzone, BT provided free point-of-sale literature, leaflet stands and notices.

From a user's perspective, BT Openzone is one of the most widespread wireless networks in the UK and gives three ways in which users can pay for the service. Users are charged by the minute for all three methods, which are: buy a scratch card voucher; pay by credit/debit card; use free minutes bundled with some BT accounts. Payments are not site-specific, so for example, a user buying a voucher in one outlet could use it in another location.

Technical requirements

To use existing wireless infrastructure the access points (APs) must support multiple SSIDs. The Openzone network is not secured but ran happily alongside the SOAS WPA2 wireless provision using CISCO appliances. SOAS ran Openzone to all APs, however institutions may want to check that they have the means to independently control the networks broadcast from each AP.

Since this was a pilot, we decided to use an ISDN link from BT to their router in our communications room. If LMN decides to recommend this service to its members, the possibility of providing the link centrally via LMN should be examined in order to reduce the cost to Members.

BT supports the user via a dedicated phone line (the institution does not need to provide user support). BT also supports the ISDN link and router by contact with the institution's network team. The Openzone service proved simple to access for the user and reliable in operation, so in practice BT support services were little used.

Implementation

A partnership proposal was put to BT in May 2007 and as a result a contract was agreed for the provision of a BT Openzone SSID over the existing SOAS infrastructure. The contract was not entirely satisfactory for the long-term, but communications with BT legal department were taking so long that a short-term contract was signed in August 2007.

An ISDN line from BT was installed and a router configured to bridge the Openzone traffic onto the SOAS network. After some delay on the part of BT in this work, the service went live in November 2007.

Operation

Once working, the BT Openzone service was solid and reliable, with the only significant breaks in service due to miss-configuration on the part of SOAS.

Billing has been a different story. First BT tried to overcharge for the service. To resolve this they created a new account for us with the correct billing amounts but they didn't cancel the original account so we were billed twice for the service and our payments for the correct amounts were paid into the wrong account. This meant that the BT system thought we were defaulting on both accounts and sent us threatening letters. This took months to resolve satisfactorily.

We paid £225 quarterly for support and maintenance of the Openzone service. This is a flat rate and is not traffic dependent.

We received monthly statements that detailed the traffic through the Openzone router, which resulted in a monthly credit to our account.

Costs and Revenue

The cost to set up the system, including installing an ISDN line and installing and configuring a router, was £1,950 +VAT.

We paid a quarterly maintenance charge of £225 +VAT. Since this is the major running expenditure for the system, it equates to a break-even point of £88 per month.

We purchased an initial batch of scratch cards for sale to users in 1-hour (£6 retail) and 24-hour (£10 retail) denominations. The cost of these cards to the institution is half the retail value. We bought £850-worth of cards initially. The cards are sold in the library and the conference facility for the full retail value, though of course an institution may choose to discount the cards if they wish.

The cost of supporting the Openzone network with institution staff over an existing wireless infrastructure is minimal, amounting to typically an hour or two per month.

Revenue comes from the sale of vouchers and from traffic through the Openzone router. The following table shows the pattern of revenue growth over the first 8 months:

Month	BT income	Voucher income	Total income	Breakeven
Dec-07	£21.92		£21.92	£88
Jan-08	£36.58		£36.58	£88
Feb-08	£47.33		£47.33	£88
Mar-08	£48.12	£4.26	£52.38	£88
Apr-08	£81.92	£19.58	£101.50	£88
May-08	£38.37	£21.28	£59.65	£88
Jun-08	£83.27	£8.51	£91.78	£88
Jul-08	£91.07	£25.77	£116.84	£88

There was a miss-configuration of the network during May 2008 that resulted in reduced income at that time, but the general trend is towards increased traffic and therefore increased income. It will take a few years to pay back the initial investment, but bearing in mind that this service has removed the need to create short-life user accounts, it is very satisfactory.

Strategic issues

BT either doesn't have or, more likely, is not willing to discuss its long-term strategy for wireless networking. It is pursuing a programme of installing wireless access points in its many street telephone boxes in London. It is also offering its domestic users the option to turn their BT Home Hubs into public access points. This will produce a wide-area network of sorts, but with building penetration being rather limited at the wireless wavelengths currently in use, it will not be a pervasive network. Next generation wireless will be needed for this and BT gives no indication that it will be investing in this.

Some other vendors show a greater strategic awareness of future technologies, especially wide-area wireless, but the development of this technology is so dependent on developing the market for it that no one seems willing to commit to a timescale at present.

Conclusions and recommendations

BT has shown itself to be far from an ideal partner during this pilot. It was not willing to accept any of the risk associated with the trial, and its business processes have proved to be ponderous and inept. Its engineering, though, was solid and reliable, eventually giving a service that paid for itself, provided an invaluable service to a niche of our users and reduced our network directory administration costs by not having to set up then delete accounts for short-term visitors to SOAS.

Although I am equivocal about BT, I have been unable to find another supplier or agglomerator of services that can do any better. Given that all operators we could partner with have limitations, BT appears to be the best of a poor bunch. I would therefore recommend the following:

1. Make arrangements to partner with BT but accept that this arrangement may be short–to-medium term only.

2. Negotiate a contract that would be appropriate and acceptable to LMN Members, and that would give LMN a commission income.

3. Provide a link between the LMN and a BT point-of-presence in order to remove the need for each institution to install individual ISDN links. This is likely to require some BT technology on each site since this is how BT provides individual billing.