Bandway hardware

In order to deliver its mission, Bandway deploys a proprietory product, the BEAD (Bandway Education And Disaster) Server. This totally autonomous product functions independently, using radio to deliver EDGE data services at 473 kbps per transceiver. Where necessary the coverage is complemented by a Bandway Edge Relay Station (BERS).

When the server is connected to either a GEO or LEO based satellite structure it can receive data, and rebroadcast it to any connected data device. Selectively a back channel can be enabled over the same connection. Very high levels of security are applied to this resource, but in appropriate circumstances – such as a disaster control situation – it can be enabled as a significant communications medium, using standard mobile phones between coordinators, rescue and aid workers. Both video and voice can be supported.

Content is received by the BEAD server and rebroadcast over its independent network, being received by all connected terminals. These may be PC based, or down to individual level on a PDA or cellular phone. Thus the network consumes very little power, can be spread over wide areas of limited population, and avoids much of the engineering complexity associated with satellite delivery. Indeed the BEAD server itself can be commissioned to receive data without even a satellite dish.

This feature also means that weather information, price information and disaster warnings can reach individuals, as well as allowing appropriate return responses, such as crop availability. Indeed, with the addition of a GPS facility the devices can track children, or provide alerts in the case of a medical emergency to somebody who has no other local support – a broken leg in a ravine for example. Total device control is enabled using BDM, Bandway Device Management.

When enabled in a disaster scenario the BEAD server becomes a full GSM network and (using appropriate number translation for the period) allows support workers to maintain contact using their existing mobile phones. In some areas this feature may assist in funding, since services can be sold to organisations such as oil company exploration teams. Where a number of BEAD servers are deployed to cover a very large area, they can be interlinked to provide a single logical wide area network.