# The cable vs wireless war

By SAM WAMBUGU

Telecommunications in Kenya has travelled a bumpy road sculpted by constant changes in technology, government regulation, and market conditions.

And whereas voice telephony was once the default service of the industry, the transmission of a variety of information, including data, graphics, and video, is gaining ascendancy.

The installation of fibre optic cables by Kenya Data Network—which transmits light signals along glass strands, permitting faster, higher capacity transmissions than those possible with traditional copper wire lines—is only part of the changing landscape. In the last few years, networks of radio towers providing wireless telecommunications services have been the buzz.

It is the portability of communication gadgets that has become the obvious and primary reason people have drifted in droves to mobile telephony. But this is only part of the motivation. Wireless services such as text messaging are also a draw, and people are beginning to rely on their mobile phones for more than just voice calls.

In fact, many people are so fond of their wireless phones that they have pulled the plug on their fixed-line service. This follows the entry into the market of Flashcom, a locally owned telecommunications company, that has added a crackle to fixed-line services.

Flashcom's services went live in Nairobi in November last year after several months of trial. Users of this SMS-enabled telephone can receive text messages from mobile phones and send them to any phone equipped with the capability, fixed or wireless.

Enjoying fast mover advantage, the firm naturally fancies itself as the premier fixed wireless telephone network in the country. It offers instant connection, coming in not only to bridge the digital divide and boost teledensity, but also to plug the gap between the age-old landlines and mobile telephony.

The simplicity of mobile phone connection and its hassle-free billing system have seen the subscription to this service outstrip that of landlines five-fold. By close of 2005, the numbers of mobile subscribers from the two mobile service providers, Celtel and Safaricom had hit the eight million mark, a yawning contrast to less than 300,000 landline subscriptions, notwithstanding Telkom's decades-old monopoly in the telecomms industry, and with a long waiting list of anxious subscribers.

But Mr Anthony Kang'ethe, CEO at Flashcom believes that offering the same services that wireless users can't live without is the best way for fixed-line service providers. He says, "We offer residential and business customers an alternative means of communication using advanced technology whose thrust is a combination of benefits from both fixed line and mobile telephony."

Wireless networks operate through the transmission of signals over networks of radio towers.

Mr Kang'ethe explained, "The signal is then transmitted through the antenna into the wireline network". Other wireless services include beeper, paging, and Internet access. "Because these devices require no wireline connection", the CEO added, "they are popular with customers who need to communicate as they travel, residents of areas with inadquate wireline service, and those who simply desire the convenience of portable communications".

**WIRELESS AGE: Flashcom CEO Mr Kang'ethe displays a typical headset sold by his firm. In only three months, the firm has attracted 2,000 subscribers, underlining the growing preference for wireless telephony over cable-based networks.**

Photo/SAM WAMBUGU

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Wireless providers appear to be creating answers to many of the problems that Telkom has grappled with, many of them inherent in the use of copper cables.

It's only this week that Telkom, while launching their cellular technology blue print, confessed that the company has been spending over Sh450 million each year to maintain copper cables much of which is as a result of vandalism. Bureaucracy in acquiring telephone lines, sometimes erroneous or delayed bills and unreliable services especially during the rainy season keep the phones ringing in the customer's service desks of Telkom.

Flashcom was licensed by the Communication Commission of Kenya (CCK) to offer so-called local loop services in July 2005, and it is among 14 firms authorised to provide similar services.

In telephony, a local loop refers to the connection between a telecommunication company's central office to the lines in the subscriber's home or office. Originally, local loop service carried only telephone service to subscribers. But today, local loop operators (LLOs) are licensed to provide end-user links to facilitate the delivery of both voice and data services to subscribers, within a designated region. The loop operators are connected through Telkom to other service providers.

Says Mr Kang'ethe: "We have already established nine base stations in Nairobi and we are in the process of setting up six more to effectively wrap-up the city. We are also rolling out in Mombasa and ultimately, other regions".

To perk up its services, Flashcom employs code division multiple access (CDMA) system as opposed to GSM system commonly used in mobile telephony services. CDMA is a military technology first used during World War II by English allies to foil German attempts at jamming transmissions. The allies decided to transmit over several frequencies, instead of one, making it difficult for the Germans to pick up the complete signal. This technology however, seems to be finding acceptance in bridging the digital divide in countries where telephone access is still limited.

"Unlike competing systems, this technology does not assign a specific frequency to each user. Instead, every channel uses the full available spectrum. Individual conversations are encoded with a pseudo-random digital sequence", says Mr Kang'ethe.

CDMA service stands out because it consistently provides better capacity for voice and data communications than other commercial mobile technologies. This allows more subscribers to connect at any given time and receive clear connections.

It has been deployed successfully in other countries with similar telecommunication conditions like ours. In Asia, America and Europe, the subscriber base is growing by 700,000 people per day.

One of the users of the wireless fixed lines, Mr James Mathenge, Director of Strategic Solar systems says, "Offering SMS over fixed lines is more than just throwing mobile users a bone so they won't abandon their traditional phone service.

It is a valuable adjunct to mobile SMS." Fixed SMS represents a valuable business service, especially for companies that have a mix of mobile and office-based workers. Extending text capabilities from wireless to fixed lines clearly expands business and consumer communication options.

"SMS over fixed lines is also a handy replacement for the voice-mail message," Mr Mathenge adds. He says, "Sometimes I need to leave a quick communication but don't want to go through the process of calling, switching to a specific voice-mail system, waiting through the message, and then leaving my

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