

July 5, 2003

Searching for a Dial Tone in Africa

By G. PASCAL ZACHARY

ACCRA, Ghana, July 3 — The Internet bubble has long since popped in the United States, Europe and Asia. But in parts of Africa the Internet is serving as a powerful force for change, primarily by allowing companies and individuals to make international telephone calls far less expensively than through conventional channels.

Calls in and out of sub-Saharan Africa have long been among the world's most costly, strangling business opportunities and burdening ordinary people. Services have been tightly controlled by government-owned telephone companies, many of which are rife with corruption and incompetence. Governments also imposed high tariffs on international calls, seeing it as a lucrative source of revenue.

But now, thanks to what is called voice-over-Internet, phone alternatives are flourishing, sharply lowering costs and expanding opportunities for business and consumers in some of the poorest places on earth — even as they pose a competitive threat to government-sanctioned telephone companies.

Sending telephone calls over the Internet is gaining ground in Africa because it makes possible a range of new services, linking the sub-Saharan to the world's major industrial centers in ways unimaginable only a few years ago. And better digital connections, mostly via satellite, are raising the hope that Ghana — the most peaceful country in a West African region besieged by civil wars and ethnic strife — may become the regional hub for an information-technology industry.

"As Ghana improves its connectivity to the outside world, it has the potential to become for Africa what Bangalore became for India," said Paul Maritz, a former senior executive at [Microsoft](#) who recently visited Accra to survey the nascent high-tech scene here.

Last Thursday, at a United Nations conference in New York, the secretary general, Kofi Annan, delivered a message that developing countries also need to include wireless access, known as Wi-Fi, in building an Internet system.

"It is precisely in places where no infrastructure exists that Wi-Fi can be particularly effective," Mr. Annan said, "helping countries to leapfrog generations of telecommunications technology and empower their people."

As the movement advances, though, many government-owned telephone companies, which dominate wired service in most African countries, are fighting a rear-guard action.

Internet telephony "is presented as the salvation for business and society in Africa," said Oystein Bjorge, chief executive of Ghana's national telephone carrier. "It is not."

Mr. Bjorge, a Norwegian telecommunications consultant hired recently to do battle against the Internet telephone services, said it wreaks havoc with the economics of phone companies. Here in Ghana, the national phone company is waging a sporadic campaign against its own citizens who use the Internet to make or receive telephone calls from America and Europe, periodically turning off the lines of those suspected of doing so.

Three years ago, the government even jailed the heads of some of Ghana's leading Internet providers. Though later exonerated by a court, the dissidents fear another crackdown. "Internet telephony is changing the whole power structure," said Francis Quartey, chief technology officer of Intercom Data Network and one of those jailed. "The dangerous thing is that the power elite is responding out of fear and ignorance."

Despite this opposition, American companies are experimenting with new ventures in Ghana, seeing if enthusiasm for Internet telephony can transform local technology entrepreneurs into a force for genuine economic advancement.

For example, Rising Data Solutions, which is based in Gaithersburg, Md., introduced a call center here last month, where a dozen Ghanaians — trained in American-style English — are trying to sign up customers in the northeastern United States on behalf of a wireless phone company. At least three other call centers are expected to open in Accra later this year, all relying on Internet telephony instead of telephone carriers.

Internet telephony also aids companies like [Newmont Mining](#), which is searching for gold in Ghana, the second-largest gold producer on the continent, after South Africa. To help manage its operation, Newmont plans to link its operations within Ghana to the wider world through the Internet.

Acquiring reliable phone service is essential, foreign investors say, which is why they bypass the government-owned telephone company. Ghana Telecom has an order backlog of more than 300,000 lines; bribery is the fastest — indeed, usually the only — way to obtain new service. Even those with service suffer from frequent failures and inaccurate bills. Roughly every other call results in a busy signal, an indicator of what Ghana Telecom calls "network congestion."

Under the circumstances, Internet telephony — which has failed so far to make serious inroads into the American telephone market because of lower voice quality — seems positively fabulous to many weaned on Africa's creaky systems.

"Internet gives me control over my destiny," said Sambou Makalou, chief executive of Rising Data. "My business needs to be up 24-7; we can't get a busy signal."

Busy signals are common in Ghana because the public phone networks are overloaded. As recently as four years ago, a dial tone was among the scarcest resources in the country, which had fewer than 200,000 phone lines in a nation of 19 million.

Few people realized how much demand for phone service was waiting to explode until Ghana's most successful wireless company, Spacefon, was introduced in 1996. Before it started, executives thought the potential customer base was probably 3,000 people, at most 12,000. Seven years later, Spacefon has more than 300,000 subscribers.

The country's total phone lines are now approaching 750,000, roughly two-thirds of them wireless. But completing a call is still difficult, especially between rival networks (there are five), and neither Ghana Telecom, nor the country's legal wireless operators offer a reliable connection to the Internet.

In response to these limitations, private businesses have built scores of data networks, relying on satellite- and radio-based Internet-access systems.

But telephone service became appealing because of the high network costs: Companies typically pay from \$2,000 to \$5,000 a month for a robust connection to the Internet, an enormous sum when economic output per person is only about \$400 a year.

"I'm paying \$2,000 a month for Internet access, so I want to use the technology to the fullest," said Austin Addo, chief information officer of Ghana Link Network Services.

Mr. Addo's company, which began operations here early this year, helps the government calculate duties on goods imported into the country, relying on frequent updates, via the Internet, of product values. The company's partner is based in Madrid, so Mr. Addo uses a standard device to make international calls over his computer network. He is not billed for the calls, which would otherwise cost him roughly 75 cents a minute, including the cost of line.

His telephone calls are not really free, since he pays \$2,000 a month for Internet access. But he is still saving lots of money because he can speak as long as he wants without worrying about the cost. "Five years ago to get this level of

communication," he said, "I'd have to fly to Spain — several times a week."

Such productivity gains have been a cause for celebration almost everywhere in the world. But official anxiety over Internet telephony is widespread throughout Africa and particularly rife in Ghana. At a public meeting in May, held at the largest Internet cafe in Accra, a regulator defended the government's latest campaign against those who use the Internet to bypass authorized telephone providers. "The players have been apprehended or will be apprehended soon," said Bernard Forson, deputy director of the National Communications Authority of Ghana.

The government is not opposed to any particular technology, Mr. Forson explained, but merely wants "regulated entities to provide telephone service," not unlicensed and untaxed wildcatters.

Other African countries face a similar quandary, aware of the appeal of Internet voice service but fearful of its damage to the state-owned telephone company.

Neighboring Togo, for instance, allowed Internet telephony until the end of last year, when the government cracked down on behalf of Togo Telecom. So many foreign calls in tiny Togo were being routed over the Internet that a small "com" center — ubiquitous in Africa, offering calls for a fee — took in \$10,000 a month from just two phones.

But some African countries have embraced Internet telephony as a way to end decades of frustration. In Nigeria, for example, the government has not officially approved telephoning over the Internet but looks the other way, partly to ease congestion on its authorized networks.

Still, the legal confusion surrounding Internet telephony has prompted some to avoid it. [Affiliated Computer Services](#), which is based in Dallas, set up shop in Accra two years ago, relying on a private satellite connection to the Internet that supports both a data and a telephone network. Today, it is one of Ghana's largest private employers, with 1,200 people and plans to hire another 700.

While the company runs call centers in Jamaica, Mexico and India, it does not intend to do such telephone work in Ghana. "We can't use satellite lines" because of the brief delay in hearing a response, said Tom Blodgett, the executive who started the Ghana operation. And for now, he adds, "there is no suitable wired alternative." A legal one, anyway.

But for all their efforts to restrain the movement, African telecom companies are probably fighting a losing battle.

"Periodically the police confiscate equipment or the telco turns off phone lines," said Russell Southwood, a London-based consultant and publisher of a weekly newsletter on Africa's telecom scene, *Balancing Act's News Update*. "But it's about as hopeless as Canute trying to turn back the tide."