Prepaid dominates the African market, but can it provide real revenue?

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The third annual conference exploring GSM issues in Africa was held from 21-22 November 2000 at the Cape Sun Inter-Continental Hotel in Cape Town. Given the rapid growth of prepaid, the liberalisation of many countries' telecommunications sectors, the growth of pan-African operators and the interest in value added services, operators were eager to learn of continent-wide experiences and strategies. As such, Day One involved a variety of themes, from recent market entry reports to criteria for successful billing system provision. Day Two again offered a range of perspectives and issues, combining case studies and vendor solutions under the pretext of embracing the revenue opportunities possible through the transition from 2G to 3G services and technologies. An even stress was maintained between consolidation of dependable GSM developments and the necessary transition towards increased cellular functionality featuring mobile-internet convergence. Topics tackled included roaming, GPRS, distribution, prepaid and GSM-400.

African GSM Growth

Andrew Mthembu, the Managing Director of Vodacom South Africa and Chairman of the GSM Africa Interest Group, spoke of both worldwide GSM Association developments and the progress of GSM in Africa. Importantly he drew a distinction between the obvious successes of GSM and prepaid in Africa - more than 60% of 13 million subscribers are prepaid (source: EMC World Cellular Database) - and the cellular challenges, such as low ARPU and high entry cost barriers for IN solutions. Indeed, the African and worldwide viewpoints were fused in Mthembu's exhortation for assistance from the international GSM community to initiate business financing packages, innovative product pricing and economies of scale. The ubiquity of GSM which has catalysed the development of wireless in the region must also be partnered by a conducive regulatory environment and more routing and roaming solutions. With such criteria satisfied a confident evolution towards 3G could be anticipated. Indeed, recent licensing acrimony in Nigeria and South Africa was seen as precisely the type of inefficiency which must be avoided if cellular growth is to continue within a pro-active environment.

Michèle Scanlon, Research Manager at EMC, gave an analysis of cellular in Africa which sought to distill the market forces affecting GSM growth. Although the African market is small in world terms, the demand for services is pronounced - the current 2% share of the world market is set to rise to just under 4% by 2004. Moreover, in view of the continent's underdeveloped fixed services, African markets reveal wireless exceeding wireline - Uganda, Rwanda and Cote d'Ivoire are to be joined by South Africa, Morocco, Zimbabwe and Gabon amongst others. Paradoxically, the supposed high cost of prepaid is mitigated by the low annual cost in % GDP per capita that high penetration enables. In a study of cost of ownership against penetration Kenya and Sudan were shown to suffer from compounded high costs and low penetration. In terms of competition, analysis demonstrated that initial fluctuations in churn and ARPU preceded stabilisation - a reassuring insight for a still liberalising region. Interestingly, SMS costs were shown to depreciate less than voice call costs, encouraging the notion of VAS development. Examples from Germany and the Phillipines were used to highlight the potential for bundled SMS/Voice tariffs. SMS was considered an important value added service which could bolster ARPU, particularly significant given the difficulty of acquiring WAP usage patterns in order to discern its success. In addition, the big regional players - France Telecom, Orascom, MSI, Vodafone and MTN - were emphasised as evidence of a steadily ambitious market, although problems with state carrier interests' in mobile operators was cited as a potential pitfall in the improving regulatory climate.

Jean Baptiste de Bossière, CEO of Orascom, gave a presentation which underlined both the Egyptian operator's commitment to wireless development as well as challenging issues facing the African market. Outlining Orascom's growing customer reach, he stressed the benefits of GSM investment opportunities:

- cost-effective replacemnet for inadequate fixed networks
- prepaid model suits Africa's cash based societies
- support for basic data
- rapid deployment to cover large areas/populations
- GSM as a catalyst for economic growth: directly (eg licence fees) and indirectly (eg training, revitalised infrastructure)

However, the issues of regulatory development and mobile internet were deemed fundamental for securing future growth. Given the long term nature of African GSM investment (with a payback of 4-5 years) Mr Bossière stressed that consistency and transparency should be married to regulatory environments which avoid emphasising the short term profits of sector privatisation to governments: operator/regulator relations should accentuate partnership, not command and control. Furthermore, the need for regional and sub-regional network consolidation, requiring regulatory flexibilty and culturally centred initiatives, was voiced. Complete roaming facilities were deemed an essential criterion for regional growth. In the face of declining ARPU, mobile internet services were seen as an antidote which would build on the present potential offered via SMS. Mr Bossière emphasised that caution was needed when formulating a WAP strategy, particularly in view of the considerable costs involved. Cote d'Ivoire was mentioned as a market whose relative sophistication bodes well for the development of mobile services in Africa.

Operator Reports from new market entrants

KenCell Managing Director Phillipe Vandebrouck related the successful launch of Kenya's second operator. By way of introduction, Kenya's poor fixed network status was conveyed - low density coupled with a five year waiting list has amplified the marginal staus of a network where 96% of lines are for businesses. Moreover, first mobile operator Safaricom has suffered from network saturation and poor product distribution. In this light KenCell's arrival has been an overwhelming success. Alcatel-supplied infrastructure with a 50,000 capacity, to be increased to 100,000 by end 2000, and 46 base stations, with 40 more planned, indicate the solidity of the new network. Launched at the end of August 2000, the network has acquired 25,000 subscribers - prepaid was launched 1 November 2000 with associated scratchcards and the postpaid offer comes in three plans (Yes!: Yes! 90, Yes! 180) and offers international roaming with 32 operators. In terms of distribution there are five KenCell shops in Nairobi and Mombasa and staff totals 450 local employees. Although the roll-out of services, with a total investment of $320 million planned, has been such a vigorous success, restrictions must still be heeded. Infrastructure must be requested from Telekom Kenya, which also determines interconnectivity rates, and there have been high levels of customs duties levied on imported handsets.

Congolese Wireless Network Technical Director Gilbert Nkuli described the February 1999 network launch. DRC only has 50,000 fixed lines, 70% of which are in Kinshasa: low teledensity is compounded by a shortage of long distance transmission support - only 28% of incoming calls are received. Despite violence which has delayed roll-out, Nortel infrastructure has aided CWN network expansion from an initial 4,000 in Kinshasa to 15,000 with the port of Matadi covered and VSAT technology lined up to service rural areas. Due to bad debt problems with previous AMPS networks, CWN only supports prepaid: average consumption is 240 units per subscriber per month (two million minutes monthly of outgoing calls). Building on this established base, CWN intends to provide 1% teledensity within three years while intoducing microwave links. As a small GSM network it has made efficient use of PICONODE infrastructure.

Sentel GSM representative Mohamed Lamine Diagne communicated the development of the network, assuring delegates that recent strife with the government over its licence (see) is at an end. With Siemens supplying infrastructure - 45 base stations are operational and 30 more are planned - Sentel has 50,000 subscribers and a 30% market share. The mature competitive nature of the market means that wireless is expected to supersede wireline early in 2001. However, Mr Diagne underlined the need for a new billing sytem and customer care features in order to cope with network expansion - a requirement indicative of the challenges confronting African operators as the GSM market matures.

Rural Coverage

Sergio Troili, Managing Director for Sales at Marconi Mobile Group discussed advanced mobile applications for rural environments. Beginning by grounding such developments within the process of evolution from 2G to 3G, Mr Troili presented alternative solutions to the conventional T1/E1 link which featured a Marconi broadband, software-defined base station as a successor to the traditional narrowband hardware base station. As part of the complete Marconi GSM solution, rural coverage is enabled through infrastructure enabling unparalleled flexibility and efficiency. Main advantages are:

- rapid flexible deployment
- smooth migration from initial coverage
- adds second small BTS or broadband base station
- no installation or extra equipment fro backhaul link
- no installation of fixed infrastructure for Air BTS

Furthermore, Marconi offers an MSC solution which is scalable from 1000 to 100,000 and adapted to both urban and rural areas - a corporate version is available for In-building systems. As well as these specific product offerings Marconi provides complete network solutions involving Network Management Systems, OMC-R Management Systems and Key management for both 2G and 2.5G. The presentation concluded with an explanation of how GPRS can be overlaid onto GSM networks employing scalable architecture as part of a 2.5G solution.

Innovative Strategies - prepaid, marketing and distribution

Ahmed Faroukh, Managing Director of Scancom (operators of Spacefon), addressed the issue of prepaid strategy based on the experiences of the Ghanaian operator. The success of the SNAP prepaid service has resulted in 76,000 of Spacefon's 85,000 subscriber base opting for prepaid. Service affordability is deemed crucial for success - giving customers total control over usage removes the high costs which limit penetration. In combination with branding that is simple and symbolic, costing should be derived from a variety of factors:

· Network cost
· Subscribers usage trend
· Postpaid prices
· Interconnectivity fee
· Capex is needed for expansion.

Once the prepaid model has been successfully implemented features can be introduced to enhance mobile functionality. For 2001 Spacefon will offer services such as SMS MO, Family and Friends, Fixed Line Access, and Location Dependent Charging as the prepaid model is developed.

Dr Steven Menear of Comverse highlighted the importance of flexibility when deploying prepaid service. Mindful of maintaining growth in the prepaid market he stressed the need to discriminate between novelty and true innovation. His prescription for success included:

- Understanding market segments - youth, students, senior, cost-conscious users, visitors, transient users, affinity groups, credit-challenged users
- Accommodating changing expectations is key in terms of tariff plans adaptations, reacting to success, focusing segmentations and integrating new technologies.

Extracting possible approaches, Dr Menear discussed the relative features of Service Node architecture, Loop-around architecture, and IN strategy. Service Node offers the most prepaid features, is versatile and has a centralised database whereas Loop-around has features closer to an IN platform. An Intelligent Network has a more limited Call model but consumes neither port nor trunks. From a broader perspective come the challenges of integrating with the local network: this involves considering the topology of the network, port and trunk capacity, and costs, and the availability and cost of IN triggers. Blending with existing support procedures forms another careful requirement: integration with administration and billing, customer care facilities, service monitoring and analysis, and inventory management were emphasised. Thus the correct architecture was seen to be meeting various criteria:

- Required service features
- Commercial issues
- Existing network details
- Existing support processes
- Future proofing.

As for reacting to rapid service take-up, Dr Menear accentuated a number of practical considerations: although the initial prepaid system must be sized properly, the architecture must itself be scaleable. In conclusion, service needs should determine the technology while existing resources and processes should be kept under scrutiny.

The importance of prepaid distribution channels was the subject of the address from Terry Rhodes of pan-African operator MSI. Commenting on Africa's telephone fault rate as three times the world average, he explained how this represented an opportunity for expansion in a continent where the growth of cellular suggests it will supersede both fixed networks and PC's as a communications tool. As such, the significance of launching prepaid before postpaid was underlined. More precisely, flexible management skills must ensure that traffic is well monitored. Only then can a strategy be pursued which favours a multi-channel distribution mix involving direct sales, franchises, and an element of market education. Citing the progress of Celtel Malawi, Mr Rhodes mentioned the drive towards increased retail points (including deals with ATM's to top up scratch cards), which helped produce increased brand visibility. This succeeded the study of call patterns and general retail activity, prerequisite for deciding upon the right distribution solution. However, the need for flexibilty was deemed paramount: in MSI's first venture, Celtel Uganda, the consensus at the time was that the market was already saturated before launch. Yet by the end of 1998 the network had achieved over 150,000 subscribers, 90% of whom were prepaid - success was in a large part the result of the well timed introduction of the prepaid model. Given MSI' pan-African ambitions, the nature of the region's markets was uncovered through discrimination between similarities and differences. While coverage, capacity, customer care, billing and brand were perennnial concerns, contrasts were exposed:

- land area/topology variations
- GDP per capita ranging from $180 to $5000 (Gabon)
- Initial ARPU ranging from $50 to $300
- Number of competitors
- CAPEX.

As such a dual recognition of both the need for a business plan and informed response to unpredicable growth was seen as a commendable flexibility. Even after the violence afflicting

Congo, 40,000 subscribers had been achieved on the Celtel network one year after services launched in Brazzaville (December 1999).