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Lucent, Nokia demonstrate HSDPA systems in the U.S.

Lucent Technologies and Nokia demonstrated their respective High Speed Downlink Packet Access systems at the CTIA Wireless 2003 show in New Orleans recently while keeping a firm eye on the upgrade plans of one operator in particular.

Only NTT DoCoMo has publicly announced plans to deploy HSDPA (3G Mobile, 22 Jan, 2003), with trials scheduled to start later this year and commercial services following in early 2005. But Lucent and Nokia seem to be more concerned with what is going on in the U.S. than in Japan— and with AT&T Wireless (16%-owned by DoCoMo) in particular.

In fact, when Nokia confirmed plans to deploy HSDPA as part of its G-WCDMA initiative in December (3G Mobile, 8 Jan, 2003), it was firmly targeted at the U.S. market, with the availability of infrastructure coinciding with the auction of 1700MHz and 2100MHz 3G spectrum by the FCC in 2004-05.

"The U.S. market clearly has shown its readiness to widely deploy GSM-based EDGE technologies," Heikki Kasko, senior vice president of Nokia Networks, said in New Orleans. "The Nokia G-WCDMA solution we are demonstrating will be a natural comple-

Hutchison still waiting on shareholders

Hutchison 3G UK’s announcement that it had secured amendments to the terms of its loan facilities and an extension for an additional year does little to quell questions about minority shareholders’ level of commitment in the startup.

Hutchison 3G UK secured financing until March 2005 (see fig.) after its lenders agreed to extend and amend the terms of its loan facilities to support the next-stage rollout of its 3G network. The facilities were provided by a consortium of 16 international banks, together with vendors NEC, Nokia and Siemens and Hutchison Whampoa.

But the banks were thought to be reluctant to agree to the revised loan-covenant package and one-year loan extension arranged in 2000, totaling £3.2 billion (US$5 billion), unless Hutchison 3G UK secured an additional £1 billion from its shareholders. A 3 UK spokesman denied that was the case, saying the two matters were “entirely separate.”

Since Hutchison 3G UK made its £1 billion funding call to shareholders on March 7, only Hutchison Whampoa, with a 65% share, has agreed to the “pro rata” £650 million payment.

Both NTT DoCoMo (20%) and KPN Mobile (15%) have been given until April 15 to decide whether to meet their commitments, though KPN has already flatly refused to contribute unless it is forced to, confirming to 3G Mobile that it is looking to unload its stake in the company.

Meanwhile, 3 UK says it “is now an operational mobile operator” (see Viewpoint, p. 12) and is in the process of distributing handsets to the 10,000 customers that pre-ordered. 3 Italy has received 50,000 pre-orders. Suppliers have committed to deliver 700,000 handsets by end-May.

Hutch 3G peak funding (on a 100% basis)

Sources: Company data, Merrill Lynch estimates
continued from page 1

ment to EDGE and will do the same for WCDMA that EDGE does for GSM. G-WCDMA provides the capability for virtually unlimited wireless services and applications.”

HSDPA, which is being offered as a capacity upgrade for WCDMA/UMTS networks around the world, lifts maximum peak data rates from 10Mbps in a 5MHz channel while increasing throughput and attendant spectral efficiency. It is not surprising, therefore, that DoCoMo was at the head of the queue for HSDPA, given the particular capacity problems in the Japanese market.

But North American GSM operators are facing similar problems, having to roll out WCDMA services in the 1900MHz PCS band or even 850MHz cellular band. AT&T Wireless plans to launch WCDMA services in four markets by the end of 2004 and, without new spectrum, could do worse than deploying HSDPA soon after.

“Without a doubt our targets are aligned with the AT&T’s targets,” said Paul Mankiewich, CTO of Lucent’s Mobility Solutions Group. He prefaced the statement by saying that Lucent has been working with a lot of operators. “I’ve had discussions with every European service provider, as well as AT&T and Cingular, and everyone is very interested in HSDPA,” he said.

Lack of legacy limits upgrade

The problem for Lucent, however, is that its HSDPA upgrade would only work in Lucent UMTS base stations. “You wouldn’t be able to take an HSDPAN channel card from Lucent and put it in a Nokia BSS,” Mankiewich said. And Lucent does not have any commercial UMTS deployments – just two trials in Europe, with Telefónica and T-Mobile.

Nokia, meanwhile, has a lot of legacy equipment, including GSM/GPRS/EDGE upgrades for AT&T in the U.S. But Lasse Mäki- nen, systems marketing manager of WCDMA RAN marketing for IP Mobility Networks at Nokia Networks, says there was a need for AT&T to install HSDPA from scratch. Mäkinen said that WCDMA would come first and then HSDPA would be added slowly to improve efficiency in certain areas – the same way EDGE will be used to increase UMTS operators’ GPRS efficiency.

Lucent, however, is a little more hopeful. “AT&T is planning to deploy UMTS, and AT&T has been a very good customer of ours in the past, and I hope it will be again,” Mankiewich said. He added that Lucent is also talking about supplying WCDMA equipment to DoCoMo, which is conducting its own R&D on HSDPA, as it did with WCDMA.

In the meantime, Lucent is working on the next development of HSDPA, High Speed Uplink Packet Access. “The proposal was to put HSUPA in Release 5, but we’ll be lucky to get it in R6 now,” Mankiewich said. “Whereas HSDPAs competes on a data level with 1xEV-DO, HSUPA is the equivalent of Release D in EV-DV.”

WCDMA

UMTS850 restricted to Americas market

Proposals to study the development of UMTS850 will be restricted to North and South America after Hutchison 3G UK raised “serious objections” to the addition of new spectrum bands within the IMT-2000 family of standards at last month’s 3GPP TSG RAN meeting in Birmingham, UK.

The objections were raised by 3’s director of research, Hashem Madadi, who said the addition of more bands “will eventually affect the business plan of companies having paid for UMTS licenses in the core bands.” The draft report from the meeting noted that “there was considerable debate on the eventual applicability of this [850MHz] frequency arrangement in Europe,” but it was finally agreed to explicitly mention that the band would only apply to deployments in ITU Region 2 (North and South America).

“UMTS850 is a work item that has just started to derive the necessary requirements to use UMTS FDD in the 850MHz band [824-849MHz uplink, 869-894MHz downlink] in ITU Region 2,” Cesar Gutierrez Miguez, of the ETSI Mobile Competence Center, told 3G Mobile.

Other bands investigated at the meeting were Japan’s 800MHz and the 1.7/2.1GHz band, though there was more clarification that the European GSM bands would not be covered (see 3G Mobile, 19 Mar, 2002).

3G Mobile previously reported that moves by France Telecom/Orange to start development work on a UMTS900 system had to be put on the back burner because of a lack of support from the operator community. In fact, France Telecom/Orange wanted to include UMTS900 as a work item in last month’s meeting, claiming it would have been easier to study some coexistence issues, such as interference, at the same time for both the 850MHz and 900MHz bands.

Although operators were not ready to discuss UMTS900, delegates at the Birmingham meeting did recognize potential crossover with the 800MHz band, and it was suggested that the Japanese band be considered as an addition to UMTS850 – in other words to merge the proposals.

“It was clarified that the scope of UMTS850 is wider and the timescale substantially different [from that of UMTS800],” the draft report from the meeting noted. “However, it is agreed that they are closely related, and companies are suggested to share efforts for the simulation work.”

NTT DoCoMo’s Takehiro Nakamura confirmed that the uplink and downlink bands for 800MHz would be clarified by the next WG4 meeting, in Japan in April, and that the proposal is for FDD only and that TDD is not considered.
Will Sprint follow Verizon’s EV-DO path?

Sprint could make a dramatic U-turn on its decision to migrate its 1xRTT network directly to 1xEV-DV if the launch of Verizon Wireless’ 1xEV-DO network later this year proves successful.

Verizon recently announced plans to upgrade its 1xRTT service to 1xEV-DO, starting with its two trial markets, in San Diego and Washington, D.C. If the 3Q03 launch is successful, “a very aggressive deployment of EV-DO” could follow, Verizon CTO Dick Lynch said.

While Verizon awarded Nortel and Lucent the EV-DO contracts for San Diego and Washington, respectively, no more contracts have been signed. But future deployments of EV-DO are expected to be based on legacy equipment, and Lucent has deployed about 85% of Verizon’s 1xRTT network.

Verizon claims the launch of the high-speed EV-DO network will offer average throughput speeds of 300-800Kbps. But EV-DO – which, based on comments from senior personnel last year, Sprint is eager to deploy – is likely to offer average speeds of 2Mbps.

But speculation is mounting that Sprint could follow Verizon and upgrade its 1xRTT network with EV-DO in order to increase capacity for data traffic sooner. “The trouble is, some high-up people in Sprint have staked their interest on EV-DV,” one source said. Recent changes in management, including the appointment of CEO Gary Forsee, could result in a dramatic turnaround in the operator’s strategy.

Dan Wilinsky, director of media relations at Sprint, said the official line, at the moment, is that “we continue to plan to go to EV-DO and skip EV-DO.” But he added that “things can change.”

“Sprint will always do what’s in the best interest of the customer,” said Wilinsky. And for now, that will mean migrating directly to EV-DO in 2004-05, a time frame that is in keeping with industry estimates of the first EV-DO product field tests next year and commercial availability in 2005.

The source countered that Sprint has changed its position internally regarding EV-DO. “If Verizon’s EV-DO launch proves successful by the end of 2003, Sprint is likely to evaluate its own network strategy,” he said. “Qualcomm, Lucent and Nortel are all known to be knocking on Sprint’s door regarding EV-DO.”

The 1xRTT deployment has more than doubled Sprint’s voice capacity and should see it through to 2007 before an upgrade is required, the source said. “Sprint has plenty of spectrum and could roll out EV-DO the easiest,” the source added. “All it would have to do is plug in [EV-DO] channel cards into its base stations.” While the financial cost of upgrading from 1xRTT to either EV-DO or EV-DV is comparable, EV-DV is considered to be the capacity upgrade of 1xRTT.

Airvana hopes for Unicom windfall

U.S. startup Airvana has provided five network operators with its all-IP 1xEV-DO equipment and hopes its relationships with Nortel Networks and Ericsson will provide a windfall if China Unicom upgrades its 1xRTT network, which was due to launch by end-March.

“Unicom would be a very significant deal for us,” said Airvana product manager Amit Jain. When the Chinese operator awarded its first 1xRTT supply deals in October, Nortel took US$276 million worth of business, while Ericsson won a contract for US$150 million.

Airvana supplies both vendors with their EV-DO solutions and has seen Nortel deploy EV-DO for Verizon and Taiwan’s APBW, while both Ericsson and Nortel signed deals with Brazil’s Vesper Wireless. Airvana has also picked up deals itself with Wireless Indonesia and Alaska Communications.

Jain said four more EV-DO contracts are under discussion in Asia-Pacific and the Middle East. In Asia, Unicom is obviously the big one, though Nortel has also supplied Australian operator Telstra with its 1xRTT network. In the Middle East, only Israeli operator Pele-Phone has a CDMA network.

Jain added that the company has not made a decision about whether to expand its offering to include 1xEV-DV equipment. “We will wait and see,” he said.

News bites

Nortel Networks has completed 3G wireless voice and data calls using the 1xEV-DO and 1xRTT standards over 2.1GHz radio spectrum at its Global Technology Center in Ottawa, Canada. The demonstration is particularly significant for wireless service providers in the Asia-Pacific region, where 2.1GHz spectrum is being considered for use in delivering commercial wireless services. Nortel is working with the CDMA Development Group to develop 2.1GHz 3G wireless data network equipment.
RUSSIA’S FIXED-LINE “Baby Bells” are hoping to go on the offensive through the nationwide deployment of cdma2000 networks in the 450MHz–frequency band after failing to gain a foothold in the mobile communications market. A consolidation process has left Russia with seven regional, wireline “super operators,” compared with roughly 90 in the late-1990s. Each of the regional operators holds majority stakes in several of the country’s roughly 60 NMT450 carriers.

Russia’s three national GSM operators — Mobile Tele Systems, VimpelCom and MegaFon — are dominated by international investors — Deutsche Telekom, TeliaSonera, respectively. But rollout of cdma450 might offer the regional wireline operators a fighting chance to claw back market share. That is particularly so in the provinces, where GSM penetration is still well below 10%. The overall market share for NMT, however, has declined from about 40% in 1995 to less than 2% of Russia’s 20 million cellular subscribers currently.

Russia’s Communications Ministry is actively promoting cdma450 as a means of modernizing outdated analog networks and giving a boost to the domestic fixed–line operators. “Competition is often limited in the regions,” said an official at the Communications Ministry. “A cdma450 player would be beneficial both from a technological point of view and in terms of increasing competition.”

Rapid consolidation is under way among NMT operators, which are aware they will need to move swiftly in order to get a piece of the action. A St. Petersburg-based holding, Accord-Tel, already has stakes in some 40 operators and is actively seeking to create a network with national presence. The government–owned holding Syvazinvest also has stakes in 25 NMT carriers.

So far, two operators, Delta Telecom in St. Petersburg and Cellular Communications of Bashkortostan, have commercially launched cdma450 networks. They will be followed, probably in 2Q03 or 3Q03, by Moscow-based Moscow Cellular Communication, which accounts for some 80,000 of Russia’s estimated 450,000 NMT450 subscribers. Other operators considering cdma450 investments are Uralwestcom in the Urals region, operators in Kuzbass and Novosibirsk in Siberia and in Ulyanovsk on the Volga.

Analysts estimate the cost of digitization of Russia’s NMT450 networks at more than US$1 billion. In order to recoup this investment, cdma450 operators will have to seek a premium for their offerings. Delta in St. Petersburg has tariff plans starting at US$30, compared with GSM ARPU of typically US$15–25.

Some market observers are skeptical about the prospects for cdma450. “It’s still early days in terms of judging whether there is real demand for 2.5G services at a premium cost,” said one Moscow analyst. “Beyond Moscow and Petersburg, only a few people will be able to afford this.”

NMT 450 systems in Russia

<table>
<thead>
<tr>
<th>Russia</th>
<th>Russia has decided that cdma2000/450 will be a so-called federal standard, and test networks in Moscow and St. Petersburg are in the process of being commercialized. Thirty-nine Russian NMT 450 networks can be replaced by cdma450 in the same frequency band.</th>
</tr>
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<td>As of March 2001, NMT 450 systems were in operation in Bulgaria, Denmark, Estonia, the Faroe Islands, Finland, White Russia, Iceland, Croatia, Latvia, Lithuania, Moldavia, Norway, Poland, Romania, Russia, Slovakia, Slovenia, Sweden, the Czech Republic, Turkey, Ukraine and Hungary.</td>
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Source: Norwegian Ministry of Transport and Communications

U S.

Industry votes for universal short codes

MEMBERS OF leading wireless operators have voted in favor of creating a common SMS short-code pool in North America. The implementation of universal short codes, based on technical and business criteria essential for industrywide short codes, means cross-carrier short-code applications could be available to wireless carriers within six months.

The board of directors for the Cellular Telecommunications and Internet Association, which comprises the majority of the industry’s wireless operators, approved the plan in New Orleans two weeks ago. CTIA will play a pivotal role in the successful adoption of the common SMS short-code pool. Its duties will include overseeing the list of agreed-upon codes, ensuring revenue settlement and acting as the negotiation agency for media companies and other businesses that want to develop short-code applications.

“We think [short codes are] critical to support the development and acceleration of the broadly defined mobile marketing industry in North America,” said Jim Manis, chairman of the Mobile Marketing Association–Global group and vice president of industry development at mobile marketing solutions provider mQube. “The task begins with defining an organizational entity responsible for managing the common–short-code pool. My sense is that we will have decisions, procedures and an organizational entity in place within the next six months.”

But some operators might still need convincing to adopt a more open approach that contradicts the idea of exclusivity. Individual North American operators have successfully used short codes in exclusive relationships with content providers, thus creating walled gardens in which only a certain operator’s customers can access given content.
E-Plus deploys MMS

LogicaCMG has announced a European framework agreement with KPN Mobile to deliver multimedia messaging services. E-Plus in Germany is the first KPN Mobile company to benefit from the framework agreement, launching MMS services using LogicaCMG’s MMSC.

Ericsson demos PTT

Ericsson recently demonstrated its push-to-talk solution over cdma2000 and GSM/GPRS networks. The technology, expected to be commercially available in 2003, enables operators to offer full PTT interoperability across different network and handset technologies.

Denmark gets free SMS

On March 24, Telia Denmark launched its Telia Xpress postpaid service, which includes unlimited SMS free of charge. Telia Denmark said “young mobile users” are willing to pay a higher subscription price if they can have unlimited SMS consumption at the same time. The service costs DKr120 (US$17) per month.

Wireless LAN

Verizon pens deal

Verizon Wireless is expected to begin offering wireless LAN access following an agreement signed with Texas-based WLAN operator Wayport. The deal will see Verizon subscribers able to roam to WLAN networks in airports and hotels throughout the U.S.

T-Mobile sees growth

T-Mobile USA has seen a more-than-fourfold increase in user Wi-Fi sessions since August. T-Mobile USA had “tens of thousands of users” accessing its hot spots at Starbucks coffee shops each month, according to reports quoting Cole Brodman, T-Mobile USA’s chief development officer. Brodman also said that beginning this month, T-Mobile would offer Wi-Fi as an add-on to cellular services.

Technology

Mobile sticks with CDMA

China Mobile has participated in Datang’s TD-SCDMA network testing, that “does not represent China Mobile’s intent in the future.” Tang said it is “technically logical and easier for [China Mobile] to choose WCDMA.”

Vendors

SingTel short-lists three

Singapore Telecom is reported to have narrowed the list of potential suppliers of its WCDMA network to Nokia, Ericsson and a consortium comprising Siemens, NEC and Itochu. The contract is expected to be awarded by mid-2003. Nokia has already won a US$200 million contract from MobileOne and signed a letter of intent with StarHub. Under license obligations, operators must roll out a national 3G network by end-2004.

Bouygues expands GPRS

French celco Bouygues Telecom will develop its i-mode service by extending its GPRS network rollout using equipment from Nortel Networks. The five-year contract will extend GPRS coverage to more than 3,000 base stations across France. Since launching in November, i-mode has signed up more than 100,000 subscribers.

deployments

T-Mobile to launch in 3Q03

T-Mobile Austria says it will launch commercial UMTS services in 3Q03 after spending about US$57 million on 3G capex last year. The company said that sales in its core business rose from US$927 million in 2001 to US$955 million in 2002, with a 4% increase in data traffic. ARPU rose from US$30.10 in 2001 to US$32.25 in 2002, with the proportion of data revenues rising 30%.

TM to trial 3G this year

Telekom Malaysia will begin trialing 3G mobile services this year, but it will not make a decision on a full launch schedule until 2004. TM intends to study the 3G rollout plans of operators in other countries before committing itself to a timetable.

Maxis plans get approval

Malaysian regulator Communication and Multimedia Commission has approved celco Maxis’ 3G business plan and granted 2x15MHz FDD and 1x5MHz TDD spectrum blocks. The spectrum will be made available from April 2003 to April 2018. Maxis had originally planned to roll out its network in 2H04.

live! reaches 1 mil. subs

Vodafone said it has reached its target of 1 million subscribers for its live! service ahead of schedule. The service, available in 10 European countries, enables users to send and receive photos, download games and ring tones, and visit certain web sites using multimedia-capable mobile phones. Vodafone had set a March 31 goal for reaching the milestone.

Telstra extends 1x service

Australia’s leading mobile operator, Telstra, last week launched a range of multimedia services on its 1xRTT network, targeting the consumer market. The Telstra Mobile Loop services include chat, e-mail, games, music and information services. Telstra also said it would offer MMS interoperability between its GPRS and 1x networks beginning this month.

licensing

Romania to license four

The Romanian government intends to announce its plans for 3G licenses by July 1, according to press reports. The Ministry of Communications and Information Technology is reported to have said it will issue four 15-year 3G licenses and will specify a price of US$35 million per license.

Croatia to tender licenses

Croatia plans to open tender for three UMTS licenses and a third GSM license during 2Q03, according to Transport and Communications Minister Roland Zuvanic. The UMTS licenses will be sold for a fixed fee of Kuna132 million (US$18.33 million) each, although the price might yet be lowered. “Personally, I deem it too high,” Zuvanic said. “We are currently studying the experience of other European countries before making a final decision.” Under the proposed license conditions, each 3G operator would also have to pay a Kuna12 million fee every year on top of the initial cost. The GSM license was set at Kuna105 million.

short cuts

South Korean cellco KTF is reported to be postponing its WCDMA trials, due to start next month, citing a lack of handsets, delayed standardization of a wireless Internet platform and uncertainty over network sharing with SK Telecom. Analysts say that the MIC might force KTF to meet a minimum of its 3G service launch obligations before year-end, but that operators will only launch service on a test basis. “There continues to be a lack of significant differentiation between cdma2000 1x EV-DO and 3G WCDMA at this time, making the widespread adoption of the latter more difficult,” ABN AMRO’s Julius Kim says. “We think that the operators should concentrate on maximizing their investments in 1xEV-DO for another year or two.”

Mobilcom update

Troubled German celco Mobilcom last week said it had received two offers for its 3G network assets from two unnamed bidders. CEO Thorsten Grenz said its 3G equipment installed at 900 sites throughout Germany and a total of 3,600 sites under lease had attracted two very similar offers in the region of €10 million (US$10.72 million) to €30 million. Grenz added that a sale of its 3G license, for which it paid €8.4 billion in 2000, was less likely than a sale of just its network.

Bid news

April 2, 2003 3G Mobile 5
### Messaging data by selected operators

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<th>4Q02 SMS/quarter</th>
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<th>3Q02 SMS/quarter</th>
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*Multiple online subscribers pay less. Visit: www.baskerville.telecoms.com/corporate*
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*Both mobile originated and terminated

Sources: Operator data, Baskerville estimates

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April 2, 2003 3G Mobile 7
IMS deployment a strategic decision, claims UMTS report

Operators face 4% incremental cost to deploy IMS in 3G network

A UMTS operator’s timing for deploying the IP multimedia subsystem is a crucial strategic decision rather than a network-technology-based decision, according to Strategic Considerations for IMS – the 3G Evolution, a new report published by the UMTS Forum.

The IMS, included in 3GPP’s specifications in Release 5, is considered to be the operator’s final step toward an all-IP-based network architecture and will integrate mobile voice communications and Internet technologies. IMS will provide person-to-person real-time services, such as voice, over the packet-switched domain. It also allows the creation and deployment of IP-based multimedia services in 3G networks, thus enabling IP interoperability for real-time services between fixed and mobile networks and delivering the promise of seamless converged voice/data services, the report states.

Moreover, the IMS is the linchpin upon which the 3GPP and 3GPP2 agreed to harmonize their WCDMA and cdma2000 IP multimedia core networks to enable application-level roaming. “[This] cooperation is a demonstration of the industry’s recognition of users’ needs for the capabilities that IMS offers,” the UMTS Forum claims.

An all-IP network is inevitable when based on the economies of scale derived from the fixed Internet and evidence that all current development work in the fixed environment is IP-based, the report claims.

Timing plays crucial role

But the success of the IMS deployment will depend on the timing of service launches. Network-investment costs must be balanced against market and competitive demands for services. “If one [operator] anticipates the market too much, then costs will be incurred sooner than revenue can be created,” the report claims. “If investment is delayed for demand to be more fully developed, then market share may be lost to earlier competitors.”

Operators are therefore facing a Catch-22 situation. “IMS investment has more to do with service delivery than infrastructure cost savings,” the report states, though it notes that “compelling services must be created in order for operators to leverage maximum value from IMS investment.” And in light of the current financial environment, operators will not invest in equipment unless they can see immediate gains. Though investing in IMS does not by itself decrease cost structure or improve network efficiencies, the service-feature differentiation IMS potentially offers will become a more important source of competitive advantage. The report claims that the total incremental cost to deploy the IMS within a 3G network will work out at about 4% for the operator.

The ATM-installed base

In addition, whether certain costs are incurred depends on the operator’s network configuration, capabilities and capacities. For instance, operators might keep MSCs and deploy IMS as an overlay and reduce rollout costs.

The report provides increasing evidence that operators will be looking to migrate their networks from an ATM-installed base using the 3GPP’s Release 3 specifications. But there are fears emanating from the operator community that the IMS could place additional requirements on the infrastructure components that transport the IP packets. The report tries to allay those fears by stating that an installed base using ATM transport (IP over ATM) is capable of supporting IMS as an alternative to one based on all-IP transport.

“A feasible path for an operator is to introduce all-IP transport when it is justified for other reasons, in addition to IMS,” the report states. “For example, network expansion can be done with IP transport whilst keeping the installed ATM transport. Thus the overall business plan can decide when the ATM transport network should be replaced by all-IP.” The report also notes that the backbone packet transport network supports the quality-of-service requirements for IMS. Otherwise, upgrades might be necessary in some operator cases.

Advantages and disadvantages of IMS market-entry timing

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Source: UMTS Forum and Telecompetition, January

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REGULATION

UWB spectrum raises interference concerns

A report commissioned by the UK Radiocommunications Agency (RA) has called for a laboratory-based investigation to measure the effects of ultra wideband (UWB) devices on UMTS handsets. The report, which defines UWB as “those where the fractional bandwidth of the system is at least 25% of the total, or the absolute bandwidth itself is greater than 1GHz,” reveals that UWB devices could subject 3G handsets to high levels of interference.

To date, only the U.S. has set aside spectrum for UWB use. But the Federal Communications Commission’s decision to reserve spectrum from 3.1GHz to 10.6GHz prompted the RA to commission the report investigating possible conflict with the 2GHz UMTS spectrum.

The RA claims the proximity of UMTS and UWB spectrum will be of concern to UMTS network operators. The FCC says interference on 3G handsets from UWB will be insignificant, but concedes that UWB devices on UMTS handsets could cause interference to 3G terminals at the edge of the UMTS cell if the devices are in close proximity. But U.S. mobile operators have already said that they expect interference caused by UWB to have been addressed by the time they roll out 3G in the 2004-2005 time frame.

In the meantime, the high-bandwidth capability offered by UWB makes it an ideal technology in domestic environments linking home–entertainment systems, “at least until 2005–2006,” the report says, adding that mobiles would become overloaded by adjacent UWB devices resulting in dropped calls. This would mean that “UMTS drop rates can degrade, typically by a few parts of a percent for values of device density and UMTS user densities which have been argued to be representative of a realistic but near worst-case scenario,” the report continues.

But performance degradation of the UMTS downlink varies with the separation distances from the UWB device to the UMTS handset and the power spectral density of the UWB device.

“UWB will have a detrimental effect on a UMTS handset when the two devices are within close proximity of the order of a few meters,” the report claims, leading to dropped calls. The UMTS network would always be theoretically susceptible to UWB interference.”

E911

T-Mobile turns off lights on E-OTD

E-OTD’S FUTURE role in North America has been reduced to a peripheral one after T-Mobile USA last week announced that it has also abandoned the location-based technology for fear vendors would not widely support it.

T-Mobile was the last of the three GSM operators in the U.S. to abandon E-OTD, after Cingular Wireless and AT&T Wireless both walked away from the network-based E911 location technology last year.

AT&T switched to a TDOA solution from Grayson Wireless for its GSM and TDMA networks, and on March 10, Cingular entered a multiyear pact to use TruePosition’s U-TDOA solution for its GSM network. T-Mobile claims it was also forced to switch to TDOA because of concerns that the big infrastructure vendors would be less eager to develop E-OTD without the backing of AT&T and Cingular.

Chris Wade, CEO of Cambridge Positioning Systems, the UK company behind E-OTD, is attempting to maintain a brave face. “The U.S., from our point of view, only represents about 10% of the market currently,” he says.

Wade admits that E-OTD suffered because of its GSM focus. “[TDOA vendors] have made some progress in the U.S. because they’ve been able to effectively cover the cost of putting LMUs out there by covering two networks: both the TDMA network and the GSM network,” he said.

There were also worries that E-OTD would not meet the October 2003 U.S. regulatory requirement for handset-based technology to achieve accuracy of 50m. CPS says it has reached an interim industry benchmark of 75m. “So we’re well on our way to meeting the 50m requirement,” said Wade.

In the meantime, CPS is adamant that E-OTD’s U.S. struggles will not affect its adoption elsewhere. Trials are ongoing in Singapore, another is planned for Taiwan and CPS says E-OTD is gaining traction in China.

The company is also eyeing South America, says Wade. And unlike days past, operators in Central and South America probably won’t be influenced by U.S. operators’ technology selections, says Carlos Rodriguez, a senior analyst at Pyramid Research.

“Latin America used to do everything that the U.S. did, and that’s how Latin America ended up with TDMA,” says Rodriguez. But the region is now more influenced by European operators such as TIM and Telefonica, which have built a strong GSM presence in the region. Wade is bullish about CPS’ new Cursor Matrix – ME-OTD technology that does not require an LMU and reduces operator costs for E-OTD 65%. CPS plans to trial ME-OTD during 3Q03 in Asia and Europe.

And Wade still expects to see U.S. opportunities for ME-OTD once initial E911 deadlines are met with current technologies.
Diversification keeps Openwave afloat after WAP debacle

Openwave Systems – one of the pioneers of the mobile Internet and the one-time darling of the day-trading crowd – has seen its overall revenues shrink rapidly as wireless and wireline carriers around the world have put significant capital spending on hold. The company’s stock – which nearly reached US$250 in January 2000 – is now trading at about US$1.45 after recently dropping to a low of US$0.45.

But in spite of the overall doom and gloom, Openwave has managed to survive. Through some of its acquisitions, the company has branched out into new segments in the software market, and it has managed to ride the downturn by rapidly cutting costs. It has also announced two rounds of layoffs and repositioned its business away from messaging and mobile Internet access to newer areas, such as location-based services (LBS), wireless gaming and wireless entertainment.

Openwave was the pioneer in driving the mobile data revolution with its much-maligned WAP, along with the mobile browser. Formed in 2000 as the result of a merger between WAP pioneer Phone.com and messaging vendor Software.com, Openwave is still a dominant wireless software vendor.

The company’s software is being used by more than 84 wireless carriers worldwide. It counts five of the six major U.S. carriers as its customers. Openwave’s WAP-based mobile browser powers more than 70% of all web-enabled phones in use today and is featured in more than 200 handset models, from vendors such as Motorola, Nokia and Sony Ericsson.

These are pretty good statistics for any company, but with the entire telecoms sector in turmoil and more economic uncertainty in store over the next few quarters, Openwave needs to significantly diversify its customer base and sources of revenue. The company recorded revenues of US$66.78 million, with a loss of US$29.4 million, in 4Q02 (see fig 1.). It has never had a profitable quarter.

With global handset sales still sluggish and industry analysts still pessimistic about where the next round of growth is going to come from for the wireless industry, Openwave has suffered from the consequences of relying on a few large carrier customers for a majority of its revenues. The company admits as much in its recent 10K filing with the SEC, which states that KDDI, Sprint, mmO2, and Verizon accounted for more than 30% of its revenues in 4Q02.

Openwave CEO Donald Listwin, who joined the company in 2000 from Cisco, also accepts that the company finds itself in a tough operating environment. When Openwave was formed, Listwin predicted that it would be a billion-dollar company in the next few years. That target now seems almost unachievable for the next four or five years.

While Openwave is best known for its pervasive mobile browser software, the mobile browser business actually accounts for a very small percentage of the company’s revenues. The WAP gateway business, which is about 40% of infrastructure revenues for the company, is also under considerable threat. It is being commoditized rapidly and is subject to downward pricing pressures. The company needs to develop new segments for revenues quickly and is already fighting a whole host of new and very powerful competitors.

Messaging provider Comverse has managed to penetrate the Verizon Wireless account with its WAP 2.0 gateways, offering a lower cost of operations than Openwave. Further, Microsoft has said it intends to introduce products and services that might compete directly with many of Openwave’s software products. Microsoft has also made its Pocket PC operating system for wireless devices, including voice-enabled PDAs and wireless phones, available to a number of handset vendors. It is also delivering its own browser, the Mobile Explorer, for these devices, along with a host of applications. Although still minuscule in terms of deployment, Microsoft represents a significant threat, given its size and financial wherewithal.

Similarly, Nokia is also nipping at Openwave’s

### Openwave condensed statement of operations (US$ mil.)

<table>
<thead>
<tr>
<th>Three months ended</th>
<th>Dec-02</th>
<th>Sep-02</th>
<th>Dec-01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>License</td>
<td>36.22</td>
<td>39.74</td>
<td>63.40</td>
</tr>
<tr>
<td>Maintenance &amp; support services</td>
<td>19.90</td>
<td>17.93</td>
<td>19.50</td>
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<tr>
<td>Professional services</td>
<td>5.92</td>
<td>8.18</td>
<td>10.86</td>
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<tr>
<td>Project revenues</td>
<td>4.74</td>
<td>5.31</td>
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<tr>
<td>Total revenues</td>
<td>66.78</td>
<td>71.16</td>
<td>93.76</td>
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</table>

<table>
<thead>
<tr>
<th>Cost of revenues</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>License</td>
<td>0.91</td>
<td>1.31</td>
<td>2.45</td>
</tr>
<tr>
<td>Maintenance &amp; support services</td>
<td>7.25</td>
<td>8.44</td>
<td>8.75</td>
</tr>
<tr>
<td>Professional services</td>
<td>5.38</td>
<td>5.87</td>
<td>6.60</td>
</tr>
<tr>
<td>Project costs</td>
<td>4.33</td>
<td>4.82</td>
<td>-</td>
</tr>
<tr>
<td>Amortization of acquisition-related contract intangibles</td>
<td>0.30</td>
<td>1.10</td>
<td>-</td>
</tr>
<tr>
<td>Total cost of revenues</td>
<td>18.18</td>
<td>21.54</td>
<td>17.81</td>
</tr>
</tbody>
</table>

| Gross profit       | 48.60  | 49.62  | 75.96  |
| Total operating expenses | 75.25  | 173.66 | 571.66 |
| Operating loss     | -26.65 | -124.04| -495.71|
| Net loss           | -29.50 | -138.54| -499.88|

Source: Openwave Systems

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Kevin Kennedy: chief operating officer
Alan Black: senior vice president, corporate affairs and chief financial officer
Bruce Martin: co-chief technology officer
David Hose: vice president and general manager, infrastructure group
Valdur Koha: senior vice president, partner alliances
Mike Mulica: senior vice president, strategic customer development
Richard Wong: senior vice president, marketing
heels with a WAP server for wireless carriers, corpo-
rate customers and content providers, bringing
the Finnish vendor into direct and indirect competition
with the company. Nokia’s corporate WAP server is
designed to enable wireless-device subscribers to
directly access applications and services provided by
these customers, rather than through traditional gate-
ways hosted by wireless carriers’ WAP servers. Nokia
also competes directly with Openwave in the area of
messaging, offering solutions based on its proprietary
smart messaging protocol and MMS.

The possibility that Openwave’s WAP gateway rev-
enues will increase rapidly once IT spending picks up
are also remote, given that the demand for wireless
Internet services is not expected to increase quickly
anytime soon. In addition, the much-hyped MMS ser-
vice that uses WAP gateways as part of the protocol is
not gaining momentum as expected. According to in-
dustry reports, even in technology-savvy Japan, the
average use of the MMS-based Sha-mail service has
recently dropped from 15 picture messages per per-
son per week to about 2 messages.

Looking ahead
To highlight the urgency of finding new revenue-
generating segments, Openwave is betting its future
on the idea that people will use their mobile devices
as more than just phones. It has announced a flurry of
deals for location-based services and applications,
mobile gaming and mobile entertainment.

Openwave announced a number of new deals at the
recently concluded annual CTIA wireless show in
New Orleans. It announced a partnership with Real
Networks and has integrated Real Networks’ Re-
alPlayer technology into the Openwave browser, en-
abling the seamless deployment of RealPlayer soft-
ware on mobile devices with Openwave browsers.
The company is also working with Aplix to support its
Java acceleration technology and has announced deals
with Cellmania and FunMail as its content partners
for mobile ring tones, enhanced e-mail, etc.

The LBS business contributes about US$5 million in
revenues per quarter for Openwave. But future growth
outlook is challenging, given that the current revenue
stability is related to the E112 deployment in Europe
(similar to the E911 mandate in the U.S.) and demand is
expected to taper off once the deployment is complete.

But the mandate is not the only driving force be-
hind LBS. Providing ways for operators to boost aver-
age revenue per unit is the other side of the equation.
To push its LBS initiative, Openwave has also an-
ounced a collaboration project with Microsoft, Mo-
torola, Autodesk and Webraska to develop LBS
technology. Openwave’s acquisition of SignalSoft, one
of the early developers of E911 applications, last year
gave it a foothold in the LBS arena. The acquisition
has contributed handsomely to Openwave’s revenues
and has been one bright spot for the company.

A key component of Openwave’s business is its mes-
saging-infrastructure software. For carriers faced with
shrinking voice-services revenues and flattening mo-
 bile-subscriber growth, text-messaging services have of-
fered a way to earn additional revenue from customers.

To further enhance revenue-generating capability
for wireless carriers, Openwave has announced a new
product, Openwave Voice MMS. It is built on an IP-
based MMS platform and uses MMS transport for de-
ivering voice-messages.

The application removes the barriers associated with
person-to-person voice messaging, such as cross-carri-
er interoperability and message addressing. Openwave
is pitching the service to drive stagnant MMS use and
adoption and help carriers with new revenue-generat-
sing services apart from the traditional picture mail.

As carriers roll out their costly 2.5G and 3G net-
works, given the uncertain economic times, many are
hesitant to purchase unproven next-generation appli-
cations. Such hesitation extends to the purchase of
new Openwave software, such as its Unified Messag-
ing product. Designed to let subscribers access voice,
e-mail and fax messages from fixed-line or mobile
devices, UM has had a hard time gaining traction,
with only a handful of carriers having deployed it.

With the glory days behind it, Openwave is now a
much more diversified and focused company. It has
successfully managed the transition from the “WAP is
Crap” days and is now poised to grow in the new seg-
ments it is targeting. One big hurdle is the continued
weakness in capital spending by telecoms carriers
worldwide and the company’s continuing shrinkage
in size. The recent job losses are a significant threat to
the company’s ability to develop newer versions of its
software and service its extensive client list globally.

Although its long-term survival is not in doubt,
alysts say Openwave might become a high-profile victim of the current downturn given its very weak
stock price and falling revenues. Larger competitors
could easily acquire the company at current valuation
levels, and it is still a pretty attractive target given the
almost ubiquitous presence in mobile devices of
Openwave technology and a dominant share of the
market in traditional messaging.

Openwave’s strategic alliances

<table>
<thead>
<tr>
<th>Strategic alliances</th>
<th>Cisco Systems</th>
<th>IBM</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Siemens</td>
<td>Sun Microsystems</td>
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<table>
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<tr>
<th>Product and technology alliances</th>
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<tbody>
<tr>
<td>Amdocs</td>
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<td>Brightmail</td>
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<td>Trend Micro</td>
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Channel Alliances: platform and infrastructure partners

<table>
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<th>Channel Alliances: systems integrators</th>
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<tbody>
<tr>
<td>Accenture</td>
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<td>Telcordia Technologies</td>
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</table>

<table>
<thead>
<tr>
<th>Channel Alliances: platform and infrastructure partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compaq</td>
</tr>
</tbody>
</table>

Source: Openwave Systems

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Oksana Falenchuk looks at 3G’s first steps in Europe

The UK, mid-March, and 3G leaps from concept to reality. After unprecedented investment in license fees, infrastructure and R&D, 3G has been launched in Europe. But getting the rollout right is going to be critical for operators.

Over the past five years, the debate about whether business users or consumers should drive 3G has accompanied the speculation over the timescale for its launch. Now, as 3G takes its first steps in Europe, there has been no conclusion as to whether more development should be business- or consumer-led. Some operators are geared up to target corporate users, focusing on applications such as mobile office, high-speed data and video-conferencing. Other operators are already aiming at the consumer market, with offerings based on multimedia content, streaming and video messaging.

Operators face the challenge of identifying the segments for 3G services and using targeted marketing to attract those segments during the early stages of rollout. Getting it wrong can damage and delay the adoption of 3G. By learning the lessons from already-implemented mobile services, such as i-mode and MMS, operators can get a better sense of who the early adopters of 3G will be. Looking at these examples, three critical success factors stick out: educating the public about using new handsets, getting quality applications and establishing interworking and roaming agreements.

Familiarity with any new mobile service revolves around the handset. Having input into the development of the interface for their services is very important for operators. Whereas phones were once only used for voice, they now cover multiple functions, combining a videophone, a personal assistant and a gaming device in one. The difference in interfaces gives two very different user experiences. While those business customers using laptops or PDAs are likely to find it easier to adopt 3G services, the majority of customers will be confused by a barrage of new 3G handsets and their functions.

The challenge for operators will be educating people on how to use the new handsets. By targeting technologically aware users at the outset, operators can devote resources to teaching them about the range of services available and how to use them. The early adopters can then become vehicles for promoting 3G and teaching others how to use the service.

Getting unique and rich content and high-quality applications will be another success factor for 3G. Looking back at the rollout of MMS in Turkey, for example, 75% of Turkcell’s MMS use has been content-based. Demand for picture messages and premium content (horoscopes, celebrity pictures, etc.) has driven the demand for MMS services. It has been generally accepted that video-based applications will differentiate 3G from traditional services, but relying on video services, particularly for business, will present problems for operators. Video-conferencing has not established a foothold in the fixed-line market, and with the technical problems of video-conferencing over 3G networks, potential business users are likely to wait until the quality of service is right.

Finally, the demand for 3G services will also depend on interworking and roaming. SMS services really took off after interoperability and roaming agreements were established between different networks. For business users, remote working drives the attraction for mobile services, and roaming is particularly important.

Where is the market for 3G? Initially, it is not going to be a mass service, and the issues of interoperability, roaming and quality of service will limit the adoption in the business segment. Early 3G users are likely to be a small number of affluent and technology-aware consumers, who will spread the word to the mass market. Not only does word of mouth carry strong recommendations or criticisms, it also educates. Most of us have, at some point, shown a friend or relative how to send an SMS or enter personal details into the phone book, illustrating that hands-on learning can be more effective than detailed manuals.

For H3G, its limited 20,000-customer base in the first year can do more marketing than a multi-million-dollar advertising budget, if the early adopters find services appealing and spread a positive message. By the same token, if they are not satisfied with the services, the damage to H3G, and the whole industry, will be serious. Not only will they lose high-value customers, but word will spread that 3G is, quite simply, not all that. Hutchinson’s competitors must be holding their breath.

Oksana Falenchuk is a senior consultant at Cap Gemini Ernst & Young’s global Telecoms Media Network practice. For more information, e-mail oksana.falenchuk@cgey.com or visit www.cgey.com/tmn/solutions/services_acs.shtml.
CANADA-BASED Research In Motion has recently announced a variety of licensing and operator deals to expand its BlackBerry wireless e-mail solution into new markets and segments.

The firm used the recent CeBIT and CTIA trade shows as platforms for the announcements, which include licensing deals with Symbian and Microsoft, for use of their mobile operating systems, and an agreement with Vodafone D2, the German division of Vodafone.

Of course, new services and deals offer a good opportunity to unleash the latest generation of BlackBerry devices, and RIM has certainly done so. A generic upgrade over the first-generation terminals will include voice functionality—a highly criticized omission in the past. The firm also announced a licensing program—BlackBerry Connect—that aims to encourage more-traditional handset vendors to produce compliant solutions.

First in the new range of RIM terminals is the 6210 model, which is smaller and features greater memory than previous BlackBerries. The phone function is world band, operating in the GSM/GPRS 900/1900MHz frequencies, while the e-mail functionality has been improved with features such as cradle-free, two-way synchronization and integrated attachment viewing supporting formats such as Microsoft Word, Excel, PowerPoint, WordPerfect, Adobe PDF and ASCII text.

Although the 6210 was demonstrated at the CTIA event in New Orleans, it was unveiled at CeBIT in Hannover a week earlier, along with the 6220 device, destined for use on GSM networks in Europe and Asia.

Vodafone D2 is likely to be one carrier that employs the 6220 terminal when it launches BlackBerry services later this year. But Vodafone’s German carrier appears unperturbed by the lack of color, having jointly announced that it is working with RIM to deploy BlackBerry among its corporate customers. The carrier joins a list of more than 8,500 organizations that had signed up to RIM’s solution as of Nov. 30.

While Vodafone is vague about the precise launch date, Verizon Wireless is much more specific. The U.S.-based carrier plans its first implementation of BlackBerry during 2Q03, when RIM’s 6750 comes to market.

The device, which includes phone functionality, SMS and web browsing, has been optimized for

Wireless growth good news for chipset firms

The market for handset integrated circuits is expected to grow by just over US$3 billion in the next five years, driven by increased terminal functionality, according to a report by Allied Business Intelligence.

ABI’s Handset Integrated Circuits study predicts that the market for terminal ICs will be worth about US$12 billion in 2008, compared to its present value of US$8.7 billion. Of all the elements of an IC, it is the applications processor that is expected to offer the greatest growth potential, with ABI’s research estimating sales of this component alone to be worth more than US$2 billion by 2008.

For IC firms hoping to take a slice of the pie, the challenge will be to offer a complete end-to-end solution, while continuing to focus on reducing the footprint and power consumption, ABI analysts note.

Information from the Semiconductor Industry Association suggests that ABI’s conclusions are correct. Global chipset sales witnessed a modest recovery during 2002 (see fig.), growing 1.3% over 2001.

Much of the growth is attributed to strong demand in the wireless sector, which accounted for about one-quarter of total chip demand last year. Sales of digital signal processors benefited the most within the category, with DSP growth of 3.3% being attributed to demand from the wireless sector.

George Scalise, president of the SIA, says he expects the overall market growth to continue during 2003. “We [are forecasting] double-digit revenue growth for 2003 and broad-based strength in our industry, driven by a recovery in IT spending, a fast-paced global wireless market and the emergence of new growth sectors [such as] Wi-Fi (802.11),” he says.
use on Verizon Wireless’ Express Network and is the first BlackBerry unit to be configured for CDMA services.

Cindy Patterson, vice president of enterprise data sales at Verizon, says the device “supports our enterprise strategy to give mobile professionals access to e-mail and other applications when they’re away from the office.”

The BlackBerry Connect program was announced at CTIA, and many of RIM’s subsequent announcements center on it. The initiative is aimed at vendors and will bring them access to RIM’s push-based wireless architecture and infrastructure. It is hoped that a broader portfolio of devices will encourage greater take-up of the e-mail solution. The program is expected to complement existing deals with the likes of Nokia, which RIM says is planning to launch its first BlackBerry-enabled handset – the 6800 – during 2H03.

Microsoft is among the first to sign up to BlackBerry Connect, bringing Taiwan-based ODM HTC along with it. The deals mean that HTC will start embedding RIM’s solution into the Microsoft Pocket PC and Smartphone products it produces, though the vendor has not said when the first units will be available or if existing devices – such as Compaq’s iPAQ or Orange’s SPV – can be upgraded to include it.

To widen the appeal of its solution even more, RIM has also signed up to Symbian’s Platinum Partner program, bringing the Canadian firm access to vendors such as Sony Ericsson, Motorola, Samsung and Siemens. The agreement between RIM and Symbian will see them undertake technical collaboration and joint business development.

Analysts at UBS Warburg see the licensing program as a positive development. “The surest route for RIM to encourage greater take-up of the e-mail solution even more, RIM has also signed up to Symbian’s Platinum Partner program, bringing the Canadian firm access to vendors such as Sony Ericsson, Motorola, Samsung and Siemens. The agreement between RIM and Symbian will see them undertake technical collaboration and joint business development.

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Balanced portfolios key to maintaining growth

The top six handset vendors in western Europe – Nokia, Motorola, Siemens, Sony Ericsson, Alcatel and Samsung – collectively held about 90% of retail sales volumes in the region during 2002, according to research GfK Group undertook on behalf of UBS Warburg.

Nokia offered few surprises to UBS, with the analysis showing its market share grew from about 40% at the start of the year to more than 45% in the fourth quarter. UBS analysts estimate that Nokia’s market share by revenue could be even higher, “as the company is estimated to hold an average selling price (ASP) higher than the market average (about €156, or US$167, in 4Q02 vs. the market average of roughly €153),” the analysts note.

Below-average ASPs appear to have benefited Siemens, which ended 2002 with a retail market share of about 18% compared to 16.5% at the start of the year. “[Siemens] looks to have showed further gains in January 2003, increasing its share to roughly 18.5%,” UBS notes.

In contrast to global handset sales figures, Samsung is merely holding steady in western Europe, rather than growing market share. GfK’s research suggests that the vendor achieved marginal gains during 2002, growing from just under 5% at the start of the year to 5% in 4Q02. “January data from GfK suggests that Samsung maintained [that level] in the first month of 2003,” UBS analysts write.

Even so, the South Korean vendor is still faring better than Motorola, Sony Ericsson and Alcatel, which each lost market share through the year.

Motorola’s drop from 10% to about 9.4% by year-end is thought to be the result of higher ASPs during the first half of the year because the vendor was focusing on high-end terminals. Despite more low- to mid-tier products being introduced throughout the year, resulting in lower ASPs, UBS analysts expect the firm to “continue to struggle in western Europe in 1H03, but could see a rebound as new product shipments ramp up in the back half of the year.”

A narrow product portfolio looks to have been the main problem at Sony Ericsson, resulting in it losing about 5% market share to end-2002 at about 9%. “We would expect Sony Ericsson’s market share to improve in coming quarters due to the ramp up of recently introduced new products,” UBS analysts state, referring to the raft of new devices unveiled shortly after the 3GSM World Congress.

Last among the so-called Big Six vendors in western Europe is Alcatel, which dropped about 1 or 2% during the year to finish with a share of about 5%. “This trend looks to have continued in January, as GfK projects Alcatel’s market share at just under 5%,” UBS says.
Sun Microsystems’ announcement two weeks ago that Qualcomm has agreed to develop and distribute Java 2 Micro Edition should help clarify how the technology sits alongside BREW, according to Eric Chou, Sun’s group marketing manager for the J2ME platform. “The announcement highlights Qualcomm’s recognition of the importance of Java, while confirming that the two technologies are compatible, not competitive,” Chou told 3GMD.

Under terms of the deal, Qualcomm will work to make J2ME compatible with some of its CDMA MSM chipsets – initially its MSM6000-series – the BREW Application Programming Interface and system software for wireless devices.

Chou says he hopes the partnership deal will bring to an end “press confusion” about the nature of Sun’s Java technology vs. Qualcomm’s binary run-time environment for wireless (BREW), which many perceived as the CDMA pioneer’s attempt to circumvent use of Java.

“Qualcomm has always said that they wanted to do Java, and the deal highlights their recognition of the importance of embedding J2ME,” he told 3GMD.

Jeremy James, senior director of marketing at Qualcomm Internet Services, agrees. “[The announcement] is simply a continuation of the strategy we’ve discussed all along with regard to BREW being an open solution and supporting C/C++, Java, Flash and other types of applications and programming languages,” he says.

Other industry watchers, however, view the announcement differently. “This [announcement] looks more like Qualcomm is listening to what its customers are asking for,” one source said, pointing out that there are now more than 100 handsets that support Java from about 17 vendors (see fig.), compared to 30 BREW models from nine vendors.

According to James, that simply isn’t the case. “This is the third Java technology-based virtual machine (VM) that we’ve announced as an extension to BREW,” he says, pointing to existing deals with Insignia and IBM. “With this latest announcement, we are simply stating the availability of another VM that will be offered as an extension to BREW.”

Although the pair are now working together, Chou still expects the two platforms to compete independently of one another. “BREW is packaged with a complete business model [for mobile applications], while Java can fit with any business model,” he says.

Michael Carroll
**SHIPMENTS UPDATE**

Shipment of smartphones in the EMEA region are expected to exceed those of PDAs for the first time this year, according to research by Canalys. The research house expects shipments of about 3.3 million smartphones this year, compared to 2.8 million PDAs, and points out that simply adding phone functionality to a PDA might not be enough to reverse the trend. Lower-end terminals, offering color screens and MMS capability, are still expected to be the main source of sales this year, however. Based on that forecast, Canalys expects sales of true smartphones to be limited until users and retailers develop an understanding of their benefits.

**SMART CARDS**

**Samsung signs STK deal**

South Korean vendor Samsung Electronics last week announced it has entered into a licensing agreement with real-time accounting and billing technology supplier Telemac, to extend the performance of SIM Toolkit applications in selected handsets. Devices featuring Telemac-enabled SIMs will fully support Telemac’s CostControl technology, which Telemac claims helps lower carriers’ costs in offering programs for implementing prepaid and postpaid spending limits by eliminating most infrastructure elements and reducing nonrevenue-generating network traffic associated with requests for updated billing information.

**Exports LGE’s main driver**

LG Electronics shipped 1.9 million handsets in February and has shipped 3.7 million this year, according to information from Credit Suisse First Boston. Exports appear to be the main driver of LGEs performance, accounting for about 2.5 million of the total shipments to date. The bank’s analysts note that the figures mean the vendor’s shipments “are tracking nicely” toward their estimate of 5.1 million devices in 1003. The vendor itself is reported to be aiming to sell 23 million devices this year, building on sales of 16 million in 2002.

**Will AT&T be next to use HTC?**

Taiwan-based ODM HTC could be set to ship Microsoft Smartphone-based terminals to AT&T Wireless in the U.S., according to reports from CSFB citing local press articles. If accurate, the move would see AT&T join carriers such as Orange, mm2, and T-Mobile in deploying Microsoft-based terminals produced by HTC. “[The move] is in line with our thesis that Asian vendors will continue to take share with key global carriers and that an ODM/carrier partnership could aid this trend,” CSFB analysts say.

**APPLICATIONS**

**PalmSource set to use BDS**

CDMA pioneer Qualcomm and mobile OS provider PalmSource are set to enable over-the-air downloads of Palm OS applications to Palm devices using Qualcomm’s BREW Distribution System, as part of an MOU the pair signed two weeks ago. Qualcomm’s BDS manages the delivery, billing and payment of wireless applications. According to PalmSource, more than 17,000 commercial applications and 10,000 eBooks are available for Palm-powered terminals. Qualcomm, meanwhile, says about 40 BREW-enabled devices are available globally.

**WCMDA**

**Vodafone looking for 3G units**

Vodafone CEO Chris Gent has confirmed that the leading UK celco is talking with up to six handset manufacturers about supplying its 3G phones, reports last week stated. While Gent declined to say which vendors the carrier is talking to, his commitment to launching 3G services in time for the Christmas selling period would put the likes of Nokia’s 6650, Sony Ericsson’s Z1010 and the NEC and Motorola units being deployed by 3 in the frame.

**GPRS/1XRTT live! device range set to grow**

Vodafone Sweden plans to expand the portfolio of devices on its live! service to facilitate the rollout of new applications later this year. Nokia’s 3650 and Sharp’s GX10i1 will be the first new terminals offered, with Sony Ericsson’s T610 unit set to follow at a later date. The carrier says it is configuring its network to enable video MMS to be carried – a function offered on the Nokia device – and is also planning the introduction of instant messaging, photo-album storage and Java games.

**Braille PDA due in June**

Alva, a firm specializing in IT equipment for blind or visually impaired people, has unveiled a smartphone featuring a Braille display. The Alva MPO features 20 Braille cells, an eight-dot Braille keyboard, a speech synthesizer and the firm’s Smart-Control user interface. Phone and PDA functions include SMS, scheduler, alarm, calculator and MP3 player.

**Motorola chooses Beatnik**

Beatnik, a U.S.-based provider of audio software solutions for mobile devices, recently announced that Motorola had licensed its solutions for use in forthcoming handsets. Beatnik’s solution provides support for polyphonic ring tones, linear audio playback, user-interface sounds, multimedia messaging and games sound effects via the eXtensible Music Format (XMF) standard. XMF allows samples of digital sounds, instruments or vocals to be combined with synthesized instruments to generate high-fidelity polyphonic audio.

**SPV sales reach 50,000 mark**

France Telecom-owned carrier Orange announced it had sold 50,000 SPV smartphone phones in the UK, France, Switzerland and Denmark, according to reports last week. The Microsoft Smartphone OS-based terminal is produced by Taiwanese ODM HTC and first went on sale in November. A more consumer-focused version of the device – the SPVx – is set to ship later this year.

**Camera modules unveiled**

Agilent Technologies has announced a new family of fully integrated CMOS camera modules for handsets and PDAs. The Agilent ADCM-1650 and ADCM-1670 components offer CIF (352x288-pixel) resolution, while the ADCM-2650 version offers VGA resolution – 480x640 pixels – which is suitable for phone-to-web and phone-to-e-mail applications. All three modules are available in sample quantities, with commercial volumes expected in April.

**SOFTWARE**

**Audiovox unveils 1x PC card**

U.S.-based CDMA handset vendor Audiovox Communications and AirPrime, a provider of CDMA wireless access solutions for the OEM market, introduced a new wireless PC card for 1x networks in North America at the CTIA Wireless 2003 conference two weeks ago. The Audiovox PC3220 is a dual-band 800MHz cellular and 1900MHz PCS band solution and Type II PC card and is based on Qualcomm’s MSM5100 chip. The card supports bidirectional data rates of up to 153kbps and features a patent-pending, proprietary antenna design the companies claim maximizes data-rate transfer speeds, sensitivity and overall power efficiency. The solution also features a standard 32-bit CardBus electrical interface for platform interoperability and extended battery life for notebook computers. The PC3220 is slated for availability during 2003.