2004 Next-Generation Wireless Infrastructure Market Perception Study

EXECUTIVE SUMMARY

Third-generation (3G) wireless technology has finally reached the deployment stage. Nearly two dozen UMTS and more than 80 CDMA2000 networks are now in commercial service. Those launches represent only a tiny fraction of the total number of wireless networks in service, which means the market for 3G equipment will have significant upside for years to come.

The next-generation wireless infrastructure market is already highly competitive. Granted, most telecom sectors are, but next-gen wireless stands out with some cutthroat examples. To wit: The price of a Node B base station has plummeted to about $29,500 today from nearly $83,000 less than two years ago.

With so much competition, it’s important know how the players stack up. Heavy Reading’s 2004 Next-Generation Wireless Infrastructure Market Perception Study offers insight into the level of competition in each 3G equipment category, as well as what wireless infrastructure buyers feel are the biggest problems with products in each category. The report covers the following 3G product sectors:

- CDMA2000 and GSM/GPRS/EDGE base transceiver stations (BTSs)
- UMTS Node Bs
- CDMA2000 and GSM/GPRS/EDGE base station controllers (BSCs)
- CDMA2000, GSM/GPRS/EDGE, and UMTS microcells and picocells
- UMTS radio network controllers (RNCs)
- Serving GPRS support nodes (SGSNs)
- Gateway GPRS support nodes (GGSNs)
- Packet data serving nodes (PDSNs)
- Home agents
- Accounting, authentication, and authorization (AAA) servers

The study covers 34 suppliers of 3G wireless infrastructure equipment, including 21 public companies and 13 private companies.

The heart of the study is an exclusive, invitation-only worldwide survey of 169 wireless service providers, consultants, and integrators, which gauged their attitudes toward and perceptions of
3G wireless equipment vendors. Each survey respondent rated vendors based on these five critical criteria:

- Name recognition
- Price leadership
- Product performance
- Product quality and reliability
- Service and support

Purchasers of this report also gain access to a searchable database of all report results. The database allows for further analysis by demographic segment, including the following parameters:

- Company type
- Geographic region
- Respondent job category

Key Findings

Key findings of this study include the following:

An oligarchy of incumbent vendors dominates mindshare in the 3G wireless infrastructure market, but no single supplier in that group has a clear advantage. Nokia, Nortel Networks, Ericsson, Motorola, Lucent Technologies, Siemens, and Alcatel all are well known to buyers in the 3G market. Among this group, Ericsson has the best reputation for product performance, quality and reliability, and price, with Nokia, Nortel, and Motorola fairly close behind.

Cisco Systems is perceived as the leading supplier of quality products in the wireless infrastructure categories in which it competes. Although Cisco doesn’t manufacture “big-iron” infrastructure gear like base stations, it is viewed as the providing the best-performing and best-quality products in the PDSN, home agent, and AAA server categories. Nearly 78 percent of respondents identified Cisco as a supplier, indicating that Cisco’s telecom brand ubiquity has definitely spilled over into the wireless sector.

Huawei Technologies is widely seen as the low-cost vendor in the 3G wireless market. This finding is consistent with Heavy Reading market perception studies in other telecom sectors. Survey respondents considered Huawei the price leader in every wireless infrastructure sector in which the company sells products. Huawei’s overall score for price leadership (25.9 percent) was nearly double that of category runner-up Nokia (13.4 percent). Huawei clearly has carved out a niche as the low-cost choice for next-gen wireless infrastructure. That reputation won’t win every customer, but it will clearly help with those whose primary concern is cost. For long-term success, the company will need to develop a reputation for the quality and performance of its products – something it has yet to accomplish, according to survey results.

Vendors that offer a full suite of products are in better position to capture wireless service provider customers. In several parts of the survey, respondents identified interoperability as a major problem. Despite the wireless industry’s move toward open standards, which make it easier to mix vendors, interoperability concerns present an opportunity for companies that offer a full product suite.

The base station sector as a whole is likely to come under increased pricing pressure. Node B products have seen the deepest price cuts recently, but survey results suggest that service provider buyers want to see similar cuts in the CDMA and GMS/GPRS/EDGE BTS market. When respondents were asked to identify the biggest problem in the BTS market, the leading culprit identified was high product cost.
Among the handful of startups in the 3G wireless infrastructure sector, IPWireless has done the best job of establishing itself in the eyes of the market. In the three product categories in which it competes, IPWireless is recognized on average by 40 percent of prospective buyers – a solid score when compared with startup visibility recorded in previous Heavy Reading market perception studies. IPWireless got its best marks for product performance, where its average leadership rating of 10.8 percent was sixth-best overall.

Other smaller players are doing a good job of building name recognition, but they are not perceived as product leaders. In the BTS sector, Airvana, AirWalk Communications, and InterWave Communications International were all recognized by more than 20 percent of survey respondents as makers of base stations. Airvana did get some recognition for price and product performance leadership, but no more than 1.6 percent of respondents identified either AirWalk or InterWave as a leader in each of the remaining evaluation categories. The takeaway is that although many smaller vendors have their foot in the door, they now need to get in the room and educate potential customers about how their products stack up against their rivals.

Buyers of next-gen wireless infrastructure have a cautiously optimistic outlook for 3G. When asked to describe their overall perception of the 3G wireless market, 13 of the 53 respondents who answered this survey question called wireless a “growing” market. One respondent said, “It is growing at a fantastic pace,” while another commented that the market is “Good and getting better.” But this positive view of the market is offset by serious concerns about the net effect of so many vendors going in so many different directions. One respondent was succinct: “Fragmented [and] incoherent.” This is as much an opportunity as it is a problem. As one respondent put it: “Scattered as to standards and performance by vendor, with lots of opportunities for vendors to make their mark.”

Market-stymieing issues create opportunities for rival technologies to grab market share, particularly in broadband access. As one respondent put it, “Early 3G experience and [the] 802.xx threat [are] hampering investment in mainstream cellular networks. [The market is suffering from] Lack of cohesive response to 802.xx threat/opportunity.” Another complained: “Full of extremely poor products, predominately as a result of technology limitations. While there are some useful products, they will not be able to compete with wired technology in the near future in matters of bandwidth, transfer rates and reliability, for example.” The underlying message is that 3G had better watch its back, particularly for the threat of 802.11, even as it looks forward to continued wireline displacement.

Partnerships abound among makers of next-gen wireless infrastructure, but they don’t necessarily result in one brand overshadowing the other, even when it’s a pairing of a large vendor and a small one. For example, in the GGSN space, nearly 30 percent of respondents recognized Starent as a maker of GGSNs. This visibility shows that its nearly three-year-old partnership with Samsung – which has helped it break into key markets such as Asia – isn’t at the expense of its own brand.

Report Structure

The report presents results for each of the ten product categories covered in the market perception survey, as well as a cross-category analysis section that compares vendor market perception scores across all 3G product categories. Each category includes a brief introduction featuring a category definition, a technology overview, and a market overview for that specific sector.

A total of 401 responses were received for the study. Only respondents who worked directly for a service provider or for a consultancy, integrator, or value-added reseller were allowed to participate in the study. Those qualifications reduced the number of valid respondents to 169. Demographic breakouts for the survey base are as follows:
The report is essential reading for a wide range of industry participants, including the following:

- **3G wireless systems vendors:** How does your market mindshare compare with that of your competition? Are you getting your marketing message across to prospective buyers, or is there room for improvement? Does your competition have specific perception weaknesses that you can exploit to better advantage? What areas do you need to address to maintain a competitive edge in the marketplace?

- **Wireless service providers:** Do your suppliers have a solid reputation among other buyers? Are there alternative suppliers that have a better reputation for the issues that matter most to you: price, product performance and quality, and service and support?

- **Investors and financial analysts:** Which 3G vendors are in the best position to capture new market share, and which ones are in danger of slipping? Are startup vendors making significant inroads into building customer mindshare? Which suppliers are seen as the top companies in the hottest 3G infrastructure sectors?

*Heavy Reading’s 2004 Next-Generation Wireless Infrastructure Market Perception Study* is published in PDF format.