EXECUTIVE SUMMARY

Heavy Reading’s Fall 2003 OSS Market Perception Study offers a comprehensive view of one of the telecommunications industry’s most fragmented market segments: operations support systems. The cornerstone of the study is an invitation-only survey gauging attitudes and opinions of service provider and enterprise employees regarding OSS vendors in 12 product categories.

433 prequalified respondents participated in the project, yielding critical market perception data for 160 different telecom equipment vendors (71 public, 89 private). Respondents included employees from more than 90 different telecom service providers worldwide, including:

- BellSouth
- SBC Communications
- Verizon Communications
- Qwest Communications
- AT&T
- Sprint
- MCI
- Bell Canada
- Bell Mobility
- British Telecom
- NTT
- France Telecom
- Cable & Wireless
- Singapore Telecom
- Telekom Malaysia
- Telefonica
- Telenor
- Telkom South Africa
- Cingular Wireless
- T-Mobile
- Nextel
- Level 3 Communications
- Time Warner Telecom
- Alltel
- Rostelecom
- Earthlink
- IDT

Key findings on carrier market perception of telecom equipment suppliers include the following:

- **Brand recognition is a definite weakness across almost all OSS market segments, even for companies with a long history in the telecom business.** No vendor in the OSS market has been able to duplicate the success of telecom equipment maker Cisco in getting across-the-board name recognition from prospective customers. For instance, among the 25 suppliers of retail billing systems, only one – ADC Telecommunications – was identified by more than half of the respondents to that survey category, and no vendor was able to break the 50 percent recognition mark in the revenue assurance/fraud management systems category.

- **Lucent and HP now hold leading mindshare positions in the OSS market.** Lucent Technologies was the most-recognized supplier across all OSS product categories, with a composite name recognition score of 65.8 percent, while Hewlett-Packard emerged as the top-rated company for price, performance, quality/reliability, and service/support. Lucent finished a close second to HP in three of those four categories, lagging only in market perception for price leadership.

- **Telcordia and Agilent are falling behind the market leaders.** An average of only 50.2 percent of survey respondents identified Telcordia Technologies, the longtime supplier of OSS to U.S. local incumbents, as a vendor in the six categories in which it offers products. Although Agilent Technologies had the fourth-best name recognition overall, it received proportionally less support for leadership in the other survey categories, pushing it all the way down to eighth place in the cross-category ratings for OSS vendors. In contrast, Micromuse finished among the top five in the price, performance, quality/reliability, and service/support categories, despite being recognized by an average of only 35.6 percent of respondents.

- **Telecom outsiders Microsoft and Computer Associates are struggling for recognition in the OSS market.** So far, the marketing muscle of Microsoft and CA hasn’t translated to positive perceptions in the carrier market.
Microsoft was recognized by 67.4 percent of respondents to the OSS middleware survey, but low perception scores in the other leadership categories put Microsoft in a disappointing sixth-place tie with webMethods in that category. In both the fault management and service management categories, CA was not recognized as a vendor by more than 60 percent of survey respondents.

- **Some smaller OSS specialists are getting noticed by prospective customers.** Among the smaller private companies in the OSS field, Axiom Systems, NetCracker Technology, System Management Arts (Smarts), and Telution drew the highest overall ratings from survey respondents. Strong performances in individual categories also were registered by Azure Solutions (which finished third in the revenue assurance/fraud management category), Xacct Technologies (which finished third in mediation systems), Core Networks (which placed fourth in service activation), and Syndesis (which came in fourth in service provisioning). But results were not nearly as promising for many other smaller players, which are toiling in almost complete anonymity as far as survey respondents are concerned.

**REPORT STRUCTURE**

This *Heavy Reading* market perception study includes a searchable database for analysis of survey results by a wide range of criteria and from a range of perspectives, including by:

- Geographic region
- Service provider type
- Respondent job category
- Startups vs. incumbent vendors
- Enterprise vs. service provider employees

The database allows for further analysis of all survey results for specific purposes, such as:

- **OSS vendors** – What strengths and weaknesses are perceived by different carrier market segments for specific product categories, and how effective are companies’ individual marketing strategies in supporting their brand?

- **Investors and financial analysts** – Which suppliers have mindshare with carriers, which are getting ignored, and which ones have customers not even heard of?

- **Carrier management** – Which suppliers are recognized as leading the field on price, performance, quality and reliability and, perhaps most important of all, service and support?

In addition to presenting a comprehensive picture of how the carrier and enterprise markets perceive OSS vendors overall, the survey drills down to show what carriers think about vendors’ products in 12 distinct OSS categories:

- Retail Billing Systems
- Revenue Assurance and Fraud Management Systems
- Mediation Systems
- Customer Relationship Management Systems
- Element Management Systems
- Middleware Systems
- Resource/Inventory Management Systems
- Fault Management Systems
- Performance Monitoring Systems
- Service Management Systems
- Service Activation Systems
- Service Provisioning Systems

**SURVEY RESPONDENTS**

More than 480 responses were received for the study. All responses from people who worked directly for vendors involved in the study, or who did not identify a company affiliation, were eliminated from the survey database.

The final base of 433 survey participants includes employees from more than 90 different service providers worldwide. Specific demographic breakouts of the survey base are as follows:
Survey participants rated vendors in each product category according to five criteria:

- Name recognition
- Price leadership
- Performance leadership
- Leadership in product quality and reliability
- Leadership in service and support

Top Five Overall Results (from the Fault Management Systems section)

<table>
<thead>
<tr>
<th>RANK</th>
<th>VENDOR</th>
<th>RECOGNITION</th>
<th>PRICE</th>
<th>PERFORMANCE</th>
<th>QUALITY &amp; RELIABILITY</th>
<th>SERVICE &amp; SUPPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nortel Networks Corp.</td>
<td>69.6%</td>
<td>11.1%</td>
<td>20.0%</td>
<td>8.0%</td>
<td>23.8%</td>
</tr>
<tr>
<td>2</td>
<td>Hewlett-Packard Co.</td>
<td>63.3%</td>
<td>13.9%</td>
<td>14.0%</td>
<td>24.0%</td>
<td>16.7%</td>
</tr>
<tr>
<td>3 (tie)</td>
<td>Lucent Technologies Inc.</td>
<td>65.8%</td>
<td>11.1%</td>
<td>6.0%</td>
<td>14.0%</td>
<td>7.1%</td>
</tr>
<tr>
<td>3 (tie)</td>
<td>Micromuse Inc.</td>
<td>46.8%</td>
<td>16.7%</td>
<td>16.0%</td>
<td></td>
<td>7.1%</td>
</tr>
<tr>
<td>5</td>
<td>Telcordia Technologies Inc.*</td>
<td>50.6%</td>
<td>5.6%</td>
<td>6.0%</td>
<td>8.0%</td>
<td>7.1%</td>
</tr>
</tbody>
</table>

This study analyzes overall results for each category and breaks out results for each survey category:

Top Vendors by Performance (from the Middleware Systems section)

Respondent Comments
The study contains more than 200 write-in comments from survey respondents, with the primary focus on problems perceived by the carrier market in each of the covered product categories.

Respondent Comments (from the Performance Monitoring section)
Performance issues dominated comments made by survey respondents regarding perceived problems in the performance monitoring product sector. Following are highlights from respondent comments:

“Our experiences have been primarily with data integrity and system reliability issues. Some [performance monitoring systems] do not have the capability to learn all objects from higher-density devices. Another issue is some PM vendors’ inability to keep network element modules up to date as network equipment manufacturers deploy new code releases. There is usually a turnaround process in this case, but [it is] very slow to develop.”

“Lack of standardizing user interfaces: It’s not easy to change vendors when your people are familiar with a particular product. Also, slight, but important, variations in the way test results are calculated in an instrument. This can lead to confusion when comparing results between different vendors.”
“[The] biggest problem is the perception of the SPs, [which] normally overlap the performance concept with fault management. It’s necessary [for vendors to] intensify the promotion in a very well-oriented marketing strategy to promote the value [of performance monitoring].”

“[Vendors] are a few steps behind telco needs. Telcos are thus asked to pay for development on [vendors’] behalf.”

**DEEP ANALYSIS OF PRODUCT CATEGORIES**

In addition to survey results and analysis, the report includes a *concise definition of OSS product categories* along with *technology and market overviews* for each of the 12 product sectors.

*Heavy Reading’s Fall 2003 OSS Market Perception Study* will be essential reading matter for any company selling or buying OSS software and systems, investing in the companies that make those products – or looking to sort the leaders from the followers in this fragmented and fast-changing market.