EXECUTIVE SUMMARY

With telecom carriers now making decisive moves to replace circuit-switched networks with packet-based technologies, the need is building for next-generation operations support systems (OSSs) designed specifically for the new carrier architectures. The emergence of next-gen OSSs comes at a time when carriers clearly want to avoid the back-office morass caused by legacy software systems.Carrier demand for flow-through automation within and across all OSS functional boundaries is now increasingly magnified by efforts to use a host of new technologies to create new revenue streams, as well as by efforts to cut operational costs.

For developers of next-gen OSSs, delivering high-quality, well-crafted products isn't nearly enough to guarantee market success. The fragmented nature of the OSS market absolutely requires OSS vendors to seek out sales and development channels that go beyond dealing directly with carrier customers. In fact, channel partnerships with hardware manufacturers, systems integrators, and other OSS vendors are now widely seen as being more important to OSS sales than direct contact with carriers.

Telecom equipment vendors also are faced with increasing demand from their customers to deliver products that can be deployed faster and with far better OSS integration features than in the past. Carriers now understand that automated flow-through of OSS processes is essential for fast rollout of new, revenue-generating services, and they expect equipment vendors to deliver hardware that already has OSS integration issues solved.

Next-Gen OSS Channel Partnerships and Strategies: Wireline Sector is the first report of its kind to identify and analyze the specific kinds of relationships that next-gen OSS vendors are now developing with hardware manufacturers, systems integrators, and other OSS suppliers as they position themselves to take advantage of the carrier migration to packet-based network architectures and services. The report catalogs and evaluates more than 900 different relationships involving 93 OSS suppliers, 27 hardware vendors, and 91 systems integrators.

The report is based on an extensive survey of channel relationships of more than two dozen OSS vendors, hardware manufacturers, and systems integrators, as well as in-depth interviews with product managers and executives from participating companies. In addition to identifying specific OSS channel relationships, this report describes and evaluates the types of relationships now being pursued by OSS suppliers, hardware vendors, and systems integrators, and then rates the quality of the channel partnerships of all participating vendors, with an eye toward determining which suppliers have made the most progress in fulfilling their respective OSS channel strategies.
Report Objectives

Next-Gen OSS Channel Partnerships and Strategies: Wireline Sector was created to answer the following critical questions:

- How active are OSS suppliers in building channel partnerships to sell to the next-gen wireline marketplace?
- What depth of technological and business-level collaboration characterizes existing OSS channel relationships?
- Which OSS categories are driving the most channel activity?
- Which OSS vendors are most aggressive in forging channel partnerships?
- What are the different kinds of channel partnerships being forged?
- Which hardware vendors are most active in serving as channels for OSS suppliers?
- Which categories of OSS suppliers are most active in serving as channels for other OSS suppliers?
- What is the role of systems integrators in the OSS channel to wireline service providers?
- What responses to carrier demands for rapid, low-cost integration are evident in the nature and quality of OSS channel relationships?
- What responses to carrier demands for best-of-breed flexibility are evident in the nature and quality of OSS channel relationships?

This report starts by defining and examining the types of channel partnerships being pursued by OSS vendors, telecom equipment manufacturers, and systems integrators. The partnerships fall into these four broad categories:

- **Referral-only partnerships**: Typically, these types of partnerships are the least complicated, because they primarily involve recommendations of OSS vendors by either hardware suppliers or systems integrators. However, the OSS sector’s push toward next-gen products is making referral-type partnerships much more complex – and much more important than in the past.

- **Resale partnerships**: Under this type of arrangement, hardware vendors or systems integrators take on the more active role of selling OSS products directly to their clients. Simple resale partnerships are very uncommon in the emerging next-gen OSS marketplace, according to vendor surveys conducted by Heavy Reading for this report.

- **Resale/integration partnerships**: This type of channel partnership goes beyond simple resale to include actual integration of OSS components into equipment sold either by manufacturers or by systems integrators acting as equipment resellers.

- **Resale/integration/codevelopment partnerships**: This is the most intensive type of OSS channel arrangement, involving at least some shared product development work by OSS software vendors with either hardware vendors or systems integrators. Based on research for this report, Heavy Reading believes these types of complex arrangements will become more critical for OSS vendors, and we expect to see more such channel relationships formed in the next 12 to 24 months.
In developing this report, *Heavy Reading* focused on the following next-gen telecom equipment categories, as defined in the *Heavy Reading* telecom equipment taxonomy:

- Sonet/SDH MSPPs (multiservice provisioning platforms)
- Metro Ethernet equipment
- 10-Gbit/s Ethernet switches
- Core routers
- Edge routers
- Multiservice switches
- Softswitches
- B-RASs (broadband remote access servers)
- DSLAMs (DSL access multiplexers)
- Access/metro WDM (wavelength-division multiplexing) equipment
- Long-haul WDM gear
- Optical switches

For OSS categories, we used the 12 market sectors identified and analyzed in *Heavy Reading*’s *Fall 2003 OSS Market Perception Study*:

- Billing
- Revenue assurance and fraud management
- Mediation
- CRM (customer relationship management)
- EMS (element management system)
- Middleware
- Resource/inventory management
- Fault management
- Performance monitoring
- Service management
- Service activation
- Service provisioning

**Key Findings**

Key findings of the report include the following:

**Much OSS channel activity is now geared to meet service provider demands for more completely integrated and automated systems that will enable faster deployment of new services.** Although the needs to reduce revenue leakage, increase automation, and cut opex will continue to be important selling points for OSSs, the highest levels of channel partnership activity now involve systems that are geared toward supporting new revenue creation by providing end-to-end, flow-through support of new types of services and their delivery platforms.

**Service provisioning and service management are the hottest market sectors for OSS channel partnership activity.** Together, service provisioning and service management account for nearly a third of all channel activity identified by OSS vendors, hardware manufacturers, and systems integrators for this study.

**Some OSS vendors are putting heavy emphasis on channel partnerships with hardware companies, but others are focusing on relationships with other OSS suppliers.** Among the most aggressive OSS vendors that divulged information to *Heavy Reading* for this report, Syndesis and Sheer Networks have their strongest channel partnerships with hardware manufacturers. But other suppliers, including ADC Telecommunications, Granite Systems, and Ilog, are building their strongest channel partnerships with other OSS vendors.
For channel partnerships involving hardware vendors, OSS suppliers are being most aggressive in targeting equipment that sits in the metro and edge portions of carrier networks. Multiservice switches account for 20 percent of the hardware-specific OSS channel activity reported for this study, followed by DSLAMs and edge routers. One edge-oriented product category that has yet to see significant OSS channel activity is broadband remote access servers.

Most hardware vendors favor simple OSS channel partnerships, while OSS vendors primarily favor deeper relationships that involve product integration and even codevelopment. Hardware makers tend to see deeper channel relationships as limiting their ability to offer carrier customers “best-of-breed” OSSs. On the other hand, deeper partnerships enable smaller OSS vendors to ride the coattails of their better-known hardware partners. This effect was clearly evident in InfoVista’s recent Department of Defense contract win, which has been credited to its channel partnership with Juniper Networks.

More service providers are seeking “best-of-breed” technology solutions, which in turn is making referral partnerships between OSS vendors, hardware manufacturers, and systems integrators more important than ever. Although referral partnerships involve the least amount of interactivity between channel partners, vendors and integrators interviewed for this report say referral relationships are becoming more critical as carriers pursue “best-of-breed” technologies instead of prepackaged solutions that involve a more limited number of suppliers. Referral partnerships do not necessarily equate to significantly less technological collaboration than formal reseller partnerships, but they do enable hardware vendors to offer a wider array of OSS options to carriers.

Simple resale partnerships are falling out of favor among OSS and hardware suppliers. If vendors forge an OSS channel partnership involving resale, they are more likely to reinforce that partnership with integration and/or codevelopment efforts, rather than simply reselling each other’s products. The trend toward more involved resale relationships extends to OSS vendors that are selling one another’s products. Again, this trend is driven primarily by carrier demand for integrated OSSs that can be deployed quickly to support new revenue-generating services.

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systems integrators. Conversely, OSSs that monitor and manage the underlying network devices (inventory management, fault management, EMS, and middleware) and those that primarily involve customer care (mediation, revenue assurance, billing, and CRM) are less likely to be the focus of partnerships. As the following chart shows, more than half of the 916 different OSS channel relationships cited by vendors responding to our survey involved service-centric OSSs.

Excerpt 1: Channel Partnerships by General OSS Type

Source: Heavy Reading

Service provisioning and service management OSSs were the primary focus of channel partnership activity reported by survey respondents, while minimal partnership activity was reported for revenue assurance, billing, middleware, and CRM systems.

Excerpt 2: Channel Partnerships by Specific OSS Type

<table>
<thead>
<tr>
<th>OSS CATEGORY</th>
<th>NUMBER OF RELATIONSHIPS CITED</th>
<th>PERCENTAGE OF ALL CITED RELATIONSHIPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Provisioning</td>
<td>157</td>
<td>17.1%</td>
</tr>
<tr>
<td>Service Management</td>
<td>130</td>
<td>14.2%</td>
</tr>
<tr>
<td>Inventory Management</td>
<td>113</td>
<td>12.3%</td>
</tr>
<tr>
<td>Fault Management</td>
<td>100</td>
<td>10.9%</td>
</tr>
<tr>
<td>Service Activation</td>
<td>95</td>
<td>10.4%</td>
</tr>
<tr>
<td>Performance Monitoring</td>
<td>84</td>
<td>9.2%</td>
</tr>
<tr>
<td>Mediation</td>
<td>76</td>
<td>8.3%</td>
</tr>
<tr>
<td>Element Management</td>
<td>65</td>
<td>7.1%</td>
</tr>
<tr>
<td>Revenue Assurance</td>
<td>34</td>
<td>3.7%</td>
</tr>
<tr>
<td>Billing</td>
<td>32</td>
<td>3.5%</td>
</tr>
<tr>
<td>Middleware</td>
<td>19</td>
<td>2.1%</td>
</tr>
<tr>
<td>CRM</td>
<td>11</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

Source: Heavy Reading
Edge and metro equipment are the primary focus of OSS channel relationships on the hardware side. Nearly half of all identified hardware channel relationships involved multiservice switches, edge routers, metro Ethernet gear, access/metro WDM products, or MSPPs. Conversely, core network products (core routers, long-haul WDM systems, optical switches, and 10-Gbit/s Ethernet switches) accounted for less than a quarter of the identified partnerships.

Partnerships between OSS suppliers and hardware suppliers described as “referrals” substantially outnumber those described as “resale,” “resale/integration,” or “resale/integration/codevelopment.” While such proportions are to be expected from the fact that resources always limit the number of partners with which a vendor can collaborate extensively, interviews and other data suggest that the emphasis on referrals is amplified due to buyer demand for flexibility in selecting, mixing, and matching best-of-breed OSS vendors, rather than buying prebundled and/or codeveloped systems, which imply exclusiveness.

Excerpt 3: Nature of Channel Partnerships Between OSS and Hardware Vendors

Report Structure

Next-Gen OSS Channel Partnerships and Strategies: Wireline Sector begins with in-depth analyses, based on survey results and vendor interviews, of the trends and developments now defining the next-gen OSS marketplace. Trends are assessed from the perspectives of OSS suppliers and hardware vendors. The role of systems integrators (SIs) in the OSS channel environment is fully explored, as is the trend among some hardware and software vendors to take on an integration role for their carrier customers.

The core of the report is a detailed analysis of all OSS channel partnerships reported by the OSS suppliers and hardware vendors that participated in the Heavy Reading survey. This analysis delivers a unique and timely competitive analysis of each vendor’s OSS channel strategy.

To quantify these OSS channel efforts, Heavy Reading created a comprehensive rating system, called the Channel Value Score, which factors in the market standing of each channel partner and the nature of the channel partnership. The report includes full disclosure of all OSS channel partnerships reported by the participating vendors.
## Excerpt 4: Granite’s Channel Partnerships

<table>
<thead>
<tr>
<th>HARDWARE CHANNEL PARTNER</th>
<th>TYPE OF PARTNERSHIP</th>
<th>PARTNER MARKET-MAKER RATING</th>
<th>CHANNEL VALUE SCORE</th>
<th>HARDWARE CATEGORIES COVERED</th>
<th>OSS CATEGORIES COVERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lucent</td>
<td>Resale/Integration</td>
<td>1.04</td>
<td>2.08</td>
<td>Sonet/SDH MSPPs, metro Ethernet, multiservice switches, DSLAMs, access/metro WDM, long-haul WDM, optical switches</td>
<td>Inventory management, service provisioning</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOFTWARE CHANNEL PARTNER</th>
<th>TYPE OF PARTNERSHIP</th>
<th>PARTNER MARKET-MAKER RATING</th>
<th>CHANNEL VALUE SCORE</th>
<th>GRANITE’S OSS CATEGORIES COVERED</th>
<th>PARTNER’S OSS CATEGORIES COVERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agilent</td>
<td>Resale/Integration</td>
<td>0.76</td>
<td>1.52</td>
<td>Inventory management, service provisioning</td>
<td>Fault management</td>
</tr>
<tr>
<td>Amdocs</td>
<td>Resale/Integration</td>
<td>0.64</td>
<td>1.28</td>
<td>Same as above</td>
<td>Billing</td>
</tr>
<tr>
<td>Convergys</td>
<td>Resale/Integration</td>
<td>0.69</td>
<td>1.38</td>
<td>Same as above</td>
<td>Billing</td>
</tr>
<tr>
<td>Hewlett-Packard</td>
<td>Resale/Integration</td>
<td>1.44</td>
<td>2.88</td>
<td>Same as above</td>
<td>Fault management, service activation</td>
</tr>
<tr>
<td>Lucent</td>
<td>Resale/Integration</td>
<td>1.31</td>
<td>2.62</td>
<td>Same as above</td>
<td>Element management, fault management</td>
</tr>
<tr>
<td>Micromuse</td>
<td>Referral</td>
<td>0.77</td>
<td>0.77</td>
<td>Same as above</td>
<td>Fault management</td>
</tr>
<tr>
<td>Telcordia</td>
<td>Resale/Integration</td>
<td>0.95</td>
<td>1.90</td>
<td>Same as above</td>
<td>Service activation</td>
</tr>
<tr>
<td>wiZor AS</td>
<td>Resale/Integration</td>
<td>0.00</td>
<td>0.00</td>
<td>Service provisioning</td>
<td>Service provisioning</td>
</tr>
</tbody>
</table>

*Source: Heavy Reading*

Along with cataloging the channel relationships, the report offers insight into each vendor’s channel strategy and delivers a competitive analysis of channel strategies undertaken by OSS and hardware vendors with similar product portfolios.

The report is essential reading for a wide range of industry participants, including:

- **OSS and telecom equipment vendors:** How does your OSS channel strategy compare with those of your competitors? Are you able to present your carrier customers with the kinds of integration options that they can get from other vendors? Are there strategic partners that you can cultivate to strengthen your OSS integration portfolio? Do you need to reevaluate the kinds of OSS partnerships you now have in place?

- **Systems integrators:** Is there an opportunity to strengthen ties to OSS channel partners while maintaining your independence to allow for best-of-breed product selection? Which vendors are most open to cultivating relationships with SIs, and which have closed the door on SI partnerships? How are your competitors navigating the OSS channel waters?
• **Service providers:** Which OSS and hardware vendors have adopted integration strategies that best fit your needs? Do some channel strategies make it difficult to pursue best-of-breed solutions? Conversely, which next-gen vendors are in the best position to deliver tightly integrated hardware and OSS products to enable quick deployment of new revenue-generating services?

• **Investors:** Which next-gen OSS vendors are in the best position to gain market share and market value through their aggressive pursuit of channel relationships with larger partners? Which equipment makers are responding best to changing demands from their carrier customers?

*Next-Gen OSS Channel Partnerships and Strategies: Wireline Sector* is published in PDF format.