Methodology

**INTERVIEW-BASED RESEARCH**

The research for this report was primarily based on direct discussions between Heavy Reading and the chief technology officers of the six companies profiled, namely:

- Niel Ransom, CTO of Alcatel
- Mike Volpi, senior VP and general manager of Cisco's Routing Technology Group
- Bill O'Shea, CTO and executive VP of corporate strategy and marketing for Lucent and president of Bell Labs
- John Cunliffe, VP of network strategy for Marconi
- Greg Mumford, CTO of Nortel
- Perry Kamel, senior VP of the NGN Business Unit of Siemens ICN

The interviews were transcribed and formed the basis of the main report and the six company profiles. Edited transcripts of the interviews are included in Section IV. In addition to these interviews, Heavy Reading spoke with a range of industry contacts and drew relevant material from other published sources and databases.

**COMPETITIVE ASSESSMENT AND RATING**

In terms of analyzing data for vendor direction, analysis, strengths/weaknesses assessment, and rating, we used information from a number of sources:

We scoured the Web for information on vendor product lines.

As an organization, Heavy Reading regularly discusses the latest technology trends with equipment vendors and service providers, not only in the context of producing reports but also in the context of producing online seminars and conferences. As a result, it has a wealth of background knowledge on issues related to next generation telecom networks – the full weight of which was brought to bear in this report.

Last but not least, we used the results of the Heavy Reading 2003 Telecom Equipment Market Perception Study, a global survey of 770 service providers and carriers analyzing customers' recognition of vendors in 23 telecom equipment categories and identifying market leaders for price, performance, quality/reliability, service, and support. Full details of this survey are available at: www.heavyreading.com/default.asp?page=excerpt&excerpt_id=4.

**RATING THE VENDORS’ TECHNOLOGY STRATEGIES**

Describing a company’s strategy is easy – making sure the strategy we describe is actually the one being used by the company is a bit harder. And then rating that strategy against other competition is really hard. After all, the companies selected for this report are all expressing very similar goals.

To enable us to compare the vendors’ strategies in a meaningful way, we devised a graphical representation, known as the Heavy Reading Hexagon, which we’ll discuss in a moment.

Having described the vendor technology strategies and evaluated their strengths, weaknesses and competitive threats, we assessed the overall findings per vendor and applied a rating (1 to 5 maximum) for six critical metrics:

1. Breadth of Vision
2. External Expression of Vision
3. Internal Expression of Vision
4. Ability to Execute
5. Ability to Change Direction
6. Financial Stability

Giving a single, numerical metric that claims to measure the value of an equipment vendor’s strategy is clearly naive. It’s a bit like trying to give a fine wine a score out of 100 (apologies to Robert Parker). Heavy Reading selected six key factors against which to develop a benchmark figure. We now explain these metrics and the basis on which ratings were assigned:
1. Breadth of Vision

This metric includes the scope and completeness of the strategy described by the vendor, and backed up by its current product set and roadmaps. It also measures the scope of the company’s vision against the reality of today’s service provider landscape.

Our assumption is that, in order to meet fully service providers’ requirements both today and into the future, a vendor’s strategy must encompass:

- Optical transmission (Sonet, SDH, and DWDM)
- Core packet switching (ATM, IP, and MPLS)
- A multiservice edge (ATM, IP, and MPLS)
- Broadband access (xDSL and Cable)
- Migration for legacy carrier services, especially voice

Note that it’s not obligatory for the company to have products in this area, but it must have a strategy to deal with OEM or other equipment partnerships.

2. External Expression of Vision

This metric encompasses the external marketing angle. How well do potential and existing customers understand the vision of the company? For this we made use of one-on-one discussions with employees of service providers, employees of non-competing equipment vendors, and most importantly on the results of the Heavy Reading 2003 Telecom Equipment Market Perception Survey.

3. Internal Expression of Vision

There’s an old business school chestnut that every employee of a company should be a salesperson. But how can the average employee be expected to “sell” their company if they have not been made aware of what the company’s goals are? In assessing this metric, Heavy Reading drew heavily on “industry hearsay” to establish the score – in particular the experience of Light Reading staff who have long-standing contacts with major vendors and company insights gathered over several years. Those contacts are located in a variety of company functions and not always PR representatives (whom one would expect to be familiar with company strategy).

4. Ability to Execute

Is the company actually achieving its aims? Three main elements were used in assessing this metric:

- The company’s absolute revenues and earnings.
- The rate of change for these factors, once the company has published a formal change of direction (e.g. a greater emphasis on services).
- The ability to maintain or win market share in the company’s key markets.

5. Ability to Change Direction

Are large companies really like the Titanic – they may turn the rudder, but will the ship hit the iceberg before it actually changes direction? In the past 15 years, all of these six companies have attempted to change direction in one way or another. This metric indicates their success. Since the changes in each company are of a different character, we have explained the specific scoring in more detail in the relevant company sections.

6. Financial Stability

Financial stability should be one of the easier metrics to score. We assessed:

- Is the company making an operating profit?
- Is the company making a real profit, i.e. do they declare positive earnings?
- Are things getting better or worse? Is the company meeting the revenue deadlines stated by its executives?
- What level of debt does the company have against its capitalization?
- Does the company have significant cash or equivalent assets?

We ignored stock price, as this is only an indirect indicator of financial stability. For example, companies can continue trading even if the stock price drops to zero – as was dramatically demonstrated by Marconi in the past eighteen months.
We applied the results of our vendor assessment ratings to the *Heavy Reading* Hexagon; the fundamentals of the hexagon technique are outlined below.

The *Heavy Reading* Hexagon Template

![Hexagon Diagram](image)

*Source: Heavy Reading*

The *Heavy Reading* Hexagon above shows the chosen metrics, organized in such a way that the left-hand side of the hexagon contains criteria that measure the overall effectiveness of the company and its strategy, whereas the right-hand side contains criteria that measure the perception, both external and internal, of its strategy. In other words, if a company’s ratings emphasize the area on the right-hand side, said company may be better at marketing than it is at delivering on its claims (i.e. it can “talk the talk”). If a company’s ratings emphasize the area on the left-hand side, the opposite may be true. Such examples are illustrated below.

**Sample Hexagons**

![Sample Hexagons](image)

*Source: Heavy Reading*

We used the *Heavy Reading* Hexagon to represent each vendors’ ratings graphically. This enabled us to compare the six competitors and finalize our conclusions.