
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

PRE-EFFECTIVE AMENDMENT NO. 1

TO
FORM S-4

REGISTRATION STATEMENT

UNDER
THE SECURITIES ACT OF 1933

CIENA Corporation

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation or
organization)

3661
(Primary Standard Industrial Classification Code
Number)

23-2725311
(I.R.S. Employer
Identification Number)

1201 Winterson Road
Linthicum, MD 21090
(410) 865-8500
(Address, including zip code, and telephone number,
including area code, of registrant's principal executive offices)

Russell B. Stevenson, Jr.
Senior Vice President, General Counsel and Secretary
CIENA Corporation
1201 Winterson Road
Linthicum, MD 21090
(410) 865-8500
(Name, address, including zip code, and telephone number,
including area code, of agent for service)

Copies to:

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Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement becomes effective (but no sooner than 20 business days after such effectiveness) and all other conditions to the merger contemplated by the Agreement and Plan of Merger dated as of February 18, 2004, as such agreement may be amended, described in the enclosed Prospectus have been satisfied or waived.

If the securities being registered on this Form are being offered in connection with the formation of a holding company and there is compliance with General Instruction G, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act of 1933, please check the following box and list the Securities Act of 1933 registration statement number of the earlier effective registration statement for the same offering. _____

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act of 1933, check the following box and list the Securities Act of 1933 registration statement number of the earlier effective registration statement for the same offering. o _____

The registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information in this information statement/prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This information statement/prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any state where the offer or sale is not permitted.

Subject to completion, dated March 26, 2004.



We are not asking you for a proxy and you are requested not to send us a proxy

Dear Stockholders:

I am pleased to inform you that after careful consideration, the boards of directors of Internet Photonics, Inc. and CIENA Corporation have approved the merger of Internet Photonics with CIENA. The merger will be effected pursuant to an agreement and plan of merger, dated as of February 18, 2004, as amended, by and among CIENA, Internet Photonics, Gregory Koss and Steven Waszak, a copy of which is included as Annex A to this information statement/prospectus. The merger agreement has been adopted by the requisite vote of stockholders of Internet Photonics, acting by written consent, as described below. Accordingly, your vote on the merger is not being solicited hereby.

Pursuant to the merger agreement, CIENA will issue approximately 24.1 million shares to Internet Photonics' stockholders and in connection with CIENA's assumption of Internet Photonics' stock options and warrants. At the effective time of the merger, each holder of Internet Photonics preferred stock will be paid, in shares of CIENA common stock, the liquidation preference applicable to such series of preferred stock pursuant to the certificate of incorporation of Internet Photonics. Following payment of the preferred stock liquidation preference, each outstanding share of capital stock of Internet Photonics (other than shares of series A preferred stock) will be converted into the right to receive a fraction of a share of CIENA common stock based on the common stock exchange ratio described in this information statement/prospectus. Ten percent of the total number of shares of CIENA common stock to be issued in the merger to holders of outstanding Internet Photonics capital stock will be held in an escrow fund in order to satisfy any claims for indemnification raised by CIENA within the first year after the closing of the merger. This indemnification arrangement is described further in this information statement/prospectus. A copy of the escrow agreement is included as Annex D to this information statement/prospectus.

CIENA common stock is traded on the Nasdaq National Market under the symbol "CIEN." The closing price for CIENA common stock reported on the Nasdaq National Market on March 25, 2004, was \$4.75 per share. If the merger is completed, Internet Photonics will cease to exist as a separate entity. Following the merger, based on 476,807,751 outstanding shares of CIENA common stock as of March 24, 2004, plus up to an additional 75.9 million shares of CIENA common stock being issued in CIENA's recently announced acquisition of Catena Networks, Inc., and assuming all Internet Photonics stock options and warrants have been exercised, Internet Photonics stockholders would own approximately 4.2% of the combined company and CIENA stockholders would own approximately 95.8% of the combined company.

This information statement/prospectus contains detailed information about the merger, the merger consideration and related matters. We encourage you to review this document carefully, including the matters referred to under "Risk Factors" starting on page 9, for a description of how the merger will affect you.

Under the terms of the Delaware General Corporation Law and the certificate of incorporation of Internet Photonics, the requisite number of stockholders of Internet Photonics have acted by written consent to approve and adopt the merger and the merger agreement, as amended. Additionally, stockholders of Internet Photonics have acted by written consent to approve and adopt an amendment to our Fifth Amended and Restated Certificate of Incorporation to provide that in the event of a sale of Internet Photonics in which the definitive transaction agreement specifically sets forth the means of valuing any non-cash consideration, the valuation provisions of the definitive transaction agreement shall apply instead of the determination of fair market value by the board of directors. A copy of this amendment as filed with the Secretary of State of the State of Delaware on March 3, 2004, is included as Annex C to this information statement/prospectus. Each of the foregoing written consent actions became effective on February 18, 2004. **Accordingly, your approval of the merger and the amendment to our certificate of incorporation is not required and we are not requesting you to vote on these matters.** Under applicable Securities and Exchange Commission rules, Internet Photonics may first take corporate action in accordance with the stockholder approval of the merger by written consent 20 business days after this information statement/prospectus is first mailed to stockholders. This letter and the remainder of this information statement/prospectus constitutes notice of the actions taken that we are required to provide under Section 228(e) of the Delaware General Corporation Law to the stockholders who did not execute these written consents.

We look forward to closing the merger and appreciate your continued interest in Internet Photonics.

On Behalf of the Board of Directors,

A handwritten signature in black ink, appearing to read 'Gregory W. Koss', written over a horizontal line.

Gregory W. Koss
President and Chief Executive Officer

Prospectus dated March 26, 2004

First mailed to stockholders on or about March 29, 2004

Neither the Securities and Exchange Commission nor any state securities regulator has approved or disapproved of these securities or passed upon the adequacy or accuracy of this information statement/prospectus. Any representation to the contrary is a criminal offense.

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This information statement/ prospectus incorporates important business and financial information about CIENA from documents that it has filed with the Securities and Exchange Commission but that have not been included in or delivered with this information statement/ prospectus. For a listing of documents incorporated by reference into this information statement/ prospectus, please see the section entitled “Where You Can Find More Information” beginning on page 61 of this information statement/prospectus.

CIENA will provide you with copies of this information, without charge, upon written or oral request to:

CIENA Corporation
1201 Winterson Road
Linthicum, Maryland 21090
Attention: Investor Relations
Telephone Number: (410) 865-8500

In addition, you may obtain copies of this information by sending an e-mail to ir@ciena.com.

SUMMARY

This summary highlights selected information from this information statement/prospectus. It does not contain all of the information that is important to you. You should carefully read this information statement/prospectus and the other documents incorporated by reference into this information statement/prospectus. See “Where You Can Find More Information” on page 61. In this information statement/prospectus, “we,” “us” and “our” may refer to either CIENA or Internet Photonics, depending on the context in which they are used, and “you” and “your” refer to stockholders of Internet Photonics.

The Companies (page 46)

CIENA Corporation

1201 Winterson Road
Linthicum, Maryland 21090
(410) 865-8500

CIENA is a leader in innovative networking solutions to service providers and enterprises worldwide. CIENA’s customers include long-distance carriers, local exchange carriers, Internet service providers, wireless and wholesale carriers, systems integrators, large businesses and governmental and non-profit institutions. CIENA offers network solutions that enable service providers to provision, manage and deliver economic, high-bandwidth services to their customers. On February 19, 2004, CIENA announced an agreement to acquire Catena Networks, Inc., a private provider of integrated broadband access solutions. CIENA expects to issue approximately 75.9 million shares of common stock in that acquisition.

Internet Photonics, Inc.

1030 Broad Street, Suite 200
Shrewsbury, New Jersey 07702-4330
(732) 389-1160

Internet Photonics designs, manufactures, and markets equipment and software used to send voice, video, and data traffic across optical networks. This equipment was developed specifically for operators whose existing networks are running out of capacity and who need a non-disruptive and reliable expansion of capacity, as well as the ability to offer new revenue-generating optical services to customers. Internet Photonics believes that its products simplify network deployment and the provisioning of communication services, and offer size, power consumption, cost and capacity advantages over many alternative products. All seven of Internet Photonics’ products currently produce revenue and are in use with telecommunications and cable networks around the world.

The Merger (page 15)

The merger agreement provides that Internet Photonics will merge with and into CIENA and CIENA will be the surviving corporation. The merger agreement, and the merger with CIENA contemplated thereby, have been approved by both the board of directors of Internet Photonics and the stockholders of Internet Photonics.

The merger agreement, as amended, is included as Annex A to this information statement/prospectus. It is the legal document that governs the merger.

Reasons for the Merger (page 21)

The Internet Photonics board of directors has unanimously determined that the merger is advisable and in the best interests of Internet Photonics and its stockholders.

See “The Merger — Internet Photonics’ Reasons for the Merger” for the reasons supporting the Internet Photonics board of directors’ approval of the merger.

What You Will Receive in the Merger (page 31)

At the effective time of the merger, each issued and outstanding share of Internet Photonics capital stock will be converted into a fraction of a share of CIENA common stock in accordance with the terms of the merger agreement and the certificate of incorporation of Internet Photonics. Because the consummation of the merger will constitute a sale event under the terms of the certificate of incorporation of Internet Photonics, at the effective time of the merger, holders of each series of Internet Photonics preferred stock will receive payment of their respective liquidation preference in shares of CIENA common stock. Each share of CIENA common stock to be issued in respect of the liquidation preference payable to each series of preferred stock has been designated a fixed value of \$6.127 per share pursuant to the terms of the merger agreement. Payment of the liquidation preference shall be made to holders of

Internet Photonics preferred stock prior to any payment or allocation of merger consideration to holders of Internet Photonics common stock.

Following payment of approximately 14,225,995 shares of CIENA common stock in satisfaction of the aggregate liquidation preference in respect of outstanding shares of Internet Photonics preferred stock, each share of Internet Photonics common stock and preferred stock (other than series A preferred stock), treating each series of Internet Photonics preferred stock on an as-converted into Internet Photonics common stock basis, shall be exchanged for a fraction of a share of CIENA common stock based upon the common stock exchange ratio. The common stock exchange ratio is a fraction, the numerator of which is 24,080,843 shares of CIENA common stock minus the aggregate number of shares of CIENA common stock issued in payment of the foregoing liquidation preferences, and the denominator of which is the number of shares of Internet Photonics common stock outstanding on a modified, fully-diluted basis (modified by excluding certain out-of-the-money and unvested Internet Photonics stock options as described more fully in “Terms of the Merger Agreement and Related Transactions — Treatment of Stock, Options and Warrants”). Consequently, the actual fraction of a share of CIENA common stock to be received for each share of Internet Photonics capital stock (other than the series A preferred stock) is subject to adjustment in the event that Internet Photonics’ modified fully-diluted outstanding capital stock changes due to option issuances, exercise of preferred stock warrants, stock repurchases and similar events or because of the exercise of outstanding options with an exercise price equal to or greater than \$1.00 per share. Any issuance of Internet Photonics capital stock due to the exercise of outstanding stock options with exercise prices less than \$1.00 per share will not affect the exchange ratios. Any exercise of outstanding preferred stock warrants for 68,721 shares of series C preferred stock, 432,496 shares of series D preferred stock and 20,000 shares of series E preferred stock would increase the number of shares to be issued in satisfaction of the aggregate liquidation preference in respect of outstanding Internet Photonics preferred stock and decrease the applicable common stock exchange ratio.

Internet Photonics stockholders will not know the dollar value of the CIENA common stock they will receive in the merger until the merger is completed. The dollar value of the CIENA common stock will depend upon its market price when the merger is completed.

If the total number of shares of Internet Photonics capital stock outstanding on a modified fully-diluted basis on the day the merger is completed is 60,292,575, which was the number of shares of capital stock outstanding on a fully-diluted basis as of February 18, 2004, the date of execution of the merger agreement, the following exchange ratios, rounded to the nearest ten thousandth, would apply:

Class of Internet Photonics Stock	Exchange Ratio*
Common Stock	0.1635
Series A preferred stock**	1.6321
Series B preferred stock	1.8641
Series C preferred stock	2.1742
Series D preferred stock	0.3267
Series E preferred stock	0.4083

* Exchange ratios above include and reflect payment of the applicable liquidation preference payable to holders of Internet Photonics preferred stock in shares of CIENA common stock at a fixed value of \$6.127 per share.

** The exchange ratio for the series A preferred stock is fixed, and therefore not subject to adjustment based on changes in Internet Photonics’ fully-diluted outstanding capital stock.

Assuming the application of the above common stock exchange ratio, a holder of 100 shares of Internet Photonics common stock would receive 16.35 shares of CIENA common stock in the merger. The following chart sets forth the dollar value of those shares of CIENA common stock at a range of prices of CIENA common stock. The

chart does not include cash received for fractional shares or cash paid in respect of dissenting shares.

Illustrative Market Price of CIENA Common Stock at Closing	Value of Shares of CIENA Common Stock Issued at Closing to the Holder of 100 Shares of Internet Photonics Common Stock
\$4.50	\$ 73.58
\$5.00	\$ 81.75
\$5.50	\$ 89.93
\$6.00	\$ 98.10
\$6.28*	\$102.68
\$6.50	\$106.28
\$7.00	\$114.45
\$7.50	\$122.63

* The closing price of CIENA common stock on February 18, 2004.

Treatment of Options and Warrants (page 31)

CIENA will assume each option or warrant to acquire Internet Photonics common stock and preferred stock granted under Internet Photonics' stock plans or otherwise issued by Internet Photonics and that is outstanding and unexercised immediately prior to the effective time of the merger. At the effective time of the merger, CIENA will replace these Internet Photonics options and warrants with options or warrants, respectively, to purchase CIENA common stock, in each case adjusting the number of shares issuable upon exercise and the exercise price per share of such option or warrant to reflect the exchange ratio in the merger applicable to the Internet Photonics common or preferred stock underlying such Internet Photonics option or warrant. The duration and other terms of each such CIENA option or warrant, including the vesting schedule, will be the same as the Internet Photonics option or warrant so assumed.

Total Consideration CIENA Will Pay (page 31)

Subject to the indemnification and escrow arrangements described herein, at the effective time of the merger, CIENA will issue (or reserve for issuance) approximately 24.1 million shares of its common stock in exchange for all outstanding Internet Photonics common and preferred stock and in respect of assumed options and warrants (other than out-of-the-money options and certain unvested options excluded from the definition of "common stock equivalents" in the merger agreement). Based on the closing price per share of CIENA common stock on March 24, 2004, these shares had an aggregate value of approximately \$114.4 million.

Appraisal Rights of Dissenting Stockholders (page 28)

If you object to the merger, the Delaware General Corporation Law, or DGCL, permits you to seek relief as a dissenting stockholder and have the "fair value" of your shares of Internet Photonics common stock and Internet Photonics preferred stock determined by a court and paid to you in cash.

If you are an Internet Photonics stockholder who did not execute the written consent approving the merger and wish to dissent to the merger, you must deliver to CIENA, before April 19, 2004, a written demand for appraisal of your shares.

Beneficial owners of Internet Photonics common stock or Internet Photonics preferred stock whose shares are held of record by another person, such as a bank, broker or nominee, and who wish to seek appraisal, should instruct the record holder to follow the appraisal procedures of the DGCL. The relevant provisions of the DGCL are technical in nature and complex. If you wish to exercise appraisal rights and obtain appraisal of the fair value of your shares, you may wish to consult with legal counsel, because the failure to comply strictly with these provisions may result in waiver or forfeiture of your appraisal rights.

A copy of Section 262 of the DGCL which governs this process is attached as Annex B to this information statement/prospectus.

Indemnification and Escrow Arrangement (page 39)

If the merger occurs, all holders of Internet Photonics capital stock who have not elected the appraisal rights described above will be obligated to indemnify CIENA and its affiliates against losses due to, among other things, the breach or inaccuracy of any of Internet Photonics' representations and warranties made in the merger agreement. This obligation is limited to escrowed shares equaling 10% of the total number of shares of CIENA common stock issued in the merger to

holders of outstanding Internet Photonics capital stock. An escrow arrangement will be established at closing to hold these shares. Sprout Capital IX, L.P. has been appointed to serve as stockholders' representative on behalf of all former Internet Photonics stockholders. In general, the escrow and indemnification obligations will end one year after closing. At that time, the escrowed shares will be released to the former Internet Photonics stockholders, reduced by any amounts paid or reserved for claims made by CIENA. Internet Photonics stockholders will also contribute a total of 40,803 shares of CIENA common stock to the escrow fund to pay the expenses of the stockholders' representative. These shares had a market value of approximately \$250,000, based on the average closing price of CIENA's common stock for the ten trading days ended February 18, 2004. See "Terms of the Merger Agreement and Related Transactions — Indemnification and Escrow Arrangement."

Consequently, in some circumstances you could be required to forfeit to CIENA some of the CIENA common stock you would otherwise receive in the merger.

CIENA has also agreed to indemnify the former Internet Photonics stockholders against losses due to, among other things, the breach or inaccuracy of CIENA's representations and warranties contained in the merger agreement. CIENA's indemnification obligation is limited to \$147.5 million.

What is Needed to Complete the Merger (page 41)

Several customary contractual conditions set forth in the merger agreement must be satisfied before the merger will be completed. If the law permits, CIENA or Internet Photonics may each waive conditions for their benefit and their stockholders' benefit and complete the merger even though one or more of these conditions has not been met. Neither CIENA nor Internet Photonics can assure you that the conditions will be satisfied or waived or that the merger will occur.

Termination of the Merger Agreement; Termination Fee (page 42)

CIENA and Internet Photonics may mutually agree at any time to terminate the merger agreement without completing the merger, even though the Internet Photonics stockholders have approved it. Either party (so long as it has not materially breached the merger agreement in a manner that caused the merger not to be consummated) may terminate the merger agreement if:

- the merger has not been completed by July 31, 2004; or
- a court or other governmental authority of competent jurisdiction forbids the merger to occur.

In addition, CIENA may terminate the merger agreement if:

- Internet Photonics' board of directors has withdrawn, modified or amended in any respect adverse to CIENA its recommendation in favor of the merger agreement or merger or failed to reconfirm its recommendation within three business days of a written request of CIENA to do so;
- Internet Photonics has recommended or entered into an agreement with respect to, or completed, any acquisition proposal from a person other than CIENA or any of its affiliates; or
- CIENA is not in material breach under the merger agreement and Internet Photonics breaches any material representation, warranty, covenant or agreement in the merger agreement, and fails to cure the breach ten days after receiving notice of it.

If the merger agreement is terminated by CIENA because Internet Photonics' board of directors withdraws, amends or modifies its recommendation in favor of the merger, or because Internet Photonics has recommended or entered into an agreement with respect to, or consummated, any acquisition proposal from a person other than CIENA or its affiliates, then Internet Photonics must pay CIENA a termination fee of \$6 million, as well as reimbursement of up to \$500,000 for expenses incurred in the merger negotiation.

U.S. Federal Income Tax Consequences (page 25)

In the opinion of Hogan & Hartson L.L.P., counsel to CIENA, and Sonnenschein Nath & Rosenthal LLP, counsel to Internet Photonics, the merger will qualify as a tax-free reorganization. As a general matter, therefore, no gain or loss will be recognized by Internet Photonics stockholders on the exchange of their Internet Photonics capital stock for CIENA common stock pursuant to the

merger, except with respect to cash received in lieu of fractional shares, escrowed CIENA common stock sold to either reimburse the expenses of the stockholders' representative or to make indemnification payments to CIENA, and cash received for Internet Photonics shares by Internet Photonics stockholders who dissent to the merger and exercise their appraisal rights under the DGCL. For a further discussion of the U.S. federal income tax consequences of these transactions, see "The Merger — U.S. Federal Income Tax Consequences." Different tax consequences may apply to you because of your individual circumstances or because special tax rules apply to you.

You should consult your tax advisor for a full explanation of the tax consequences of the merger to you.

Internet Photonics Stockholder Approval of Merger by Written Consent (page 13)

Pursuant to Internet Photonics' certificate of incorporation and applicable law, holders of Internet Photonics common stock are entitled to one vote per share on all matters voted upon by Internet Photonics stockholders and the holders of Internet Photonics preferred stock are entitled to vote along with the common stock on any matter voted upon by common stockholders, on an as-converted to common stock basis. In addition, Internet Photonics' certificate of incorporation provides that consideration of the merger also requires approval by more than 64% of the outstanding shares of Internet Photonics preferred stock, voting together as a class on an as-converted to common stock basis. On February 18, 2004, certain Internet Photonics stockholders who are directors and officers, and their respective affiliates, representing the requisite number of shares of Internet Photonics capital stock, executed and delivered a written consent approving the merger and adopting the merger agreement. As of that date, Internet Photonics had outstanding 485,141 shares of common stock and 43,628,761 shares of preferred stock convertible into 50,009,956 shares of common stock. As of the date of execution, the holders executing the written consent represented approximately 66% of the common stock outstanding and 87% of the preferred stock voting on an as-converted basis. On March 17, 2004, stockholders representing the requisite number of shares of Internet Photonics capital stock executed and delivered a written consent approving an amendment to the merger agreement. This amendment, among other things, reduced the number of shares of CIENA common stock to be issued in the merger by approximately 400,000 shares and permits Internet Photonics to make an aggregate cash payment of approximately \$2.3 million to Internet Photonics employees under the terms of the retention plan adopted by the Internet Photonics board of directors on March 17, 2004. The amendment to the merger agreement is included in Annex A to this information statement/prospectus.

Bridge Loan (page 43)

In conjunction with entering into the merger agreement, Internet Photonics entered into a credit and security agreement with CIENA under which CIENA has agreed to provide a bridge loan in the form of a revolving line of credit to Internet Photonics to fund Internet Photonics' operations through the closing of the merger. On March 17, 2004, the credit and security agreement was amended by the parties to increase Internet Photonics' borrowing capacity by approximately \$2.5 million in order to enable Internet Photonics to make payments pursuant to the terms of its retention plan, including related payroll and employment taxes.

Accounting Treatment (page 24)

The merger is expected to be accounted for using the purchase method of accounting. CIENA will be deemed the acquirer for financial reporting purposes. Under the purchase method of accounting, the purchase price in the merger is allocated among the Internet Photonics assets acquired and the Internet Photonics liabilities assumed to the extent of their fair market value, with any excess purchase price being allocated to goodwill.

Governmental and Regulatory Approvals (page 25)

The Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended (the "HSR Act") and its related rules and regulations prohibit Internet Photonics and CIENA from completing the merger until CIENA and Internet Photonics each file notifications with the Antitrust Division of the Department of Justice and the Federal Trade Commission, and the Hart-Scott-Rodino waiting period requirements have been satisfied. Even after the Hart-Scott-Rodino waiting period expires

or is terminated, and even after the merger is completed, the Antitrust Division or the Federal Trade Commission could challenge the merger on antitrust grounds. In addition, before or after the merger is completed, states and private litigants could also challenge the merger on antitrust grounds. CIENA and Internet Photonics each filed Hart-Scott-Rodino notifications with the Federal Trade Commission and the Antitrust Division on February 26, 2004, and the waiting period was terminated on March 10, 2004.

***Approval of Amendment to Certificate of
Incorporation of Internet Photonics (page 14)***

The Internet Photonics board of directors and the requisite number of Internet Photonics stockholders have approved an amendment to the certificate of incorporation of Internet Photonics. The amendment provides that in the event of a sale of Internet Photonics in which the definitive transaction agreement specifically sets forth the means of valuing any non-cash consideration, the valuation provisions of the definitive transaction agreement shall apply instead of the valuation provisions of Internet Photonics' certificate of incorporation which enables the board of directors to establish the fair market value. A copy of the amendment to Internet Photonics' certificate of incorporation, as filed with the Secretary of State of the State of Delaware on March 3, 2004, is included as Annex C to this information statement/ prospectus. Your approval of the amendment to the Internet Photonics certificate of incorporation is not required and Internet Photonics is not requesting you to vote on such matter.

SUMMARY SELECTED CONSOLIDATED HISTORICAL

FINANCIAL DATA OF CIENA

The information in the following summary selected consolidated financial data as of October 31, 1999, 2000, 2001, 2002 and 2003 and for the years ended October 31, 1999, 2000, 2001, 2002 and 2003 is derived from CIENA's audited consolidated financial statements. You should read this information in conjunction with the financial statements and notes to the consolidated financial statements that are incorporated by reference into this information statement/prospectus. Selected financial information as of January 31, 2004 and for the three months ended January 31, 2004 and January 31, 2003 is derived from CIENA's unaudited consolidated financial statements, which are incorporated by reference into this information statement/prospectus. See "Where You Can Find More Information" which begins on page 61. CIENA has a 52 or 53 week fiscal year, which ends on the Saturday nearest to the last day of October in each year. For purposes of financial statement presentation, each fiscal year is described as having ended on October 31. Fiscal 1999, 2000, 2002 and 2003 comprised 52 weeks and fiscal 2001 comprised 53 weeks. Historical events are not necessarily indicative of results to be expected in the future and results of interim periods are not necessarily indicative of the results of the entire year.

	As of October 31,					As of January 31,
	1999	2000	2001	2002	2003	2004
	(in thousands)					
Balance Sheet Data:						
Cash, cash equivalents, short term and long-term investments	\$262,396	\$ 238,318	\$1,795,141	\$2,078,464	\$1,626,218	\$1,519,271
Total assets	677,835	1,027,201	3,317,301	2,751,022	2,378,165	2,264,323
Long-term obligations, excluding current portion	4,881	4,882	869,865	999,935	861,149	818,056
Stockholders' equity	\$530,473	\$ 809,835	\$2,128,982	\$1,527,269	\$1,330,817	\$1,263,611

	Year Ended October 31,					Three Months Ended January 31,	
	1999	2000	2001	2002	2003	2003	2004
(in thousands, except per share data)							
Statement of Operations Data:							
Revenue	\$482,085	\$858,750	\$ 1,603,229	\$ 361,155	\$ 283,136	\$ 70,474	\$ 66,414
Excess and obsolete inventory costs (benefit)	6,534	15,022	68,411	286,475	(5,296)	(2,657)	1,043
Cost of goods sold	293,235	462,371	836,138	309,559	215,387	56,866	44,818
Gross profit (loss)	182,316	381,357	698,680	(234,879)	73,045	16,265	20,553
Operating expenses:							
Research and development	101,006	125,434	235,831	239,619	199,699	53,734	47,177
Selling and marketing	61,603	90,922	146,949	130,276	103,193	26,605	25,468
General and administrative	22,696	33,960	57,865	52,612	38,478	14,706	7,091
Settlement of accrued contract obligation	—	(8,538)	—	—	—	—	—
Deferred stock compensation costs:							
Research and development	—	—	17,783	15,672	12,824	3,798	2,205
Selling and marketing	—	—	8,378	3,560	2,728	759	518
General and administrative	40	40	15,206	1,092	1,225	374	121
Amortization of goodwill	3,197	3,197	177,786	—	—	—	—
Amortization of intangible assets	438	438	4,413	8,972	17,870	3,554	3,396
In-process research and development	—	—	45,900	—	2,800	—	—
Restructuring costs	—	—	15,439	225,429	31,155	—	3,393
Goodwill and intangible impairment	—	—	1,719,426	557,286	29,596	—	—
Merger related costs	13,021	—	—	—	—	—	—
Provision (benefit) for doubtful accounts	250	28,010	(6,579)	14,813	—	—	—
Total operating expenses	202,251	273,463	2,438,397	1,249,331	439,568	103,530	89,369
Income (loss) from operations	(19,935)	107,894	(1,739,717)	(1,484,210)	(366,523)	(87,265)	(68,816)
Interest and other income, net	14,448	13,020	63,579	61,145	42,959	13,301	7,678
Interest expense	(504)	(340)	(30,591)	(45,339)	(36,331)	(12,203)	(7,384)
Gain (loss) on equity investments, net	—	—	—	(15,677)	(4,760)	(10)	454
Loss on extinguishment of debt	—	—	—	(2,683)	(20,606)	(20,606)	(8,216)
Income (loss) before income taxes	(5,991)	120,574	(1,706,729)	(1,486,764)	(385,261)	(106,783)	(76,284)
Provision (benefit) for income taxes	(2,067)	39,187	87,333	110,735	1,256	359	424
Net income (loss)	\$ (3,924)	\$ 81,387	\$ (1,794,062)	\$ (1,597,499)	\$ (386,517)	\$ (107,142)	\$ (76,708)
Basic net income (loss) per common share	\$ (0.01)	\$ 0.29	\$ (5.75)	\$ (4.37)	\$ (0.87)	\$ (0.25)	\$ (0.16)
Diluted net income (loss) per common and dilutive potential common share	\$ (0.01)	\$ 0.27	\$ (5.75)	\$ (4.37)	\$ (0.87)	\$ (0.25)	\$ (0.16)
Weighted average basic common shares outstanding	267,042	281,621	311,815	365,202	446,696	432,572	472,935
Weighted average basic common and dilutive potential common shares outstanding	267,042	299,662	311,815	365,202	446,696	432,572	472,935

RISK FACTORS

In addition to the risks described in CIENA's most recently filed Form 10-K under Item 7 and Form 10-Q under Item 2, you should carefully consider the following risk factors relating to the merger to see how the merger may affect you. You should also consider the other information contained in or incorporated by reference into, this information statement/prospectus. See "Where You Can Find More Information" on page 61.

The value of the CIENA common stock that Internet Photonics stockholders will receive in the merger will depend on its market price at the time of the merger, and no adjustment will be made if that market price declines.

The value of CIENA common stock that Internet Photonics stockholders will receive in the merger depends on the market price of CIENA common stock at the time of the merger. The market price of CIENA common stock may decline, causing the value of the consideration received by Internet Photonics stockholders in the merger to decline. Additionally, pursuant to the terms of the merger agreement and the certificate of incorporation of Internet Photonics, the payment of shares of CIENA common stock in satisfaction of the applicable liquidation preference to holders of Internet Photonics preferred stock is based upon a fixed value of \$6.127 per share for CIENA common stock, reflecting the average closing price per share of CIENA common stock for the ten trading days preceding the date of the merger agreement. If the trading price per share of CIENA common stock is below this amount at the time of the merger, holders of Internet Photonics preferred stock will receive less than the full value of their liquidation preference upon the closing of the merger.

The market price of CIENA common stock is extremely volatile and has fluctuated over a wide range. From March 24, 2003 to March 24, 2004, CIENA common stock traded as high as \$8.14 per share and as low as \$4.19 per share. From February 18, 2004, the last trading day prior to the date on which the merger was announced, through March 24, 2004, the price of CIENA common stock has decreased from \$6.28 per share to \$4.75 per share, a decline of approximately 24%. The market price of CIENA common stock may continue to fluctuate significantly in response to various factors, including:

- quarterly variations in operating results principally due to customer purchasing decisions;
- changes in estimates by securities analysts;
- continued low levels of capital spending by customers; and
- general economic conditions.

Internet Photonics cannot terminate the merger solely due to a decrease in CIENA's stock price.

If the price of CIENA common stock decreases between the date of the merger agreement and the completion of the merger, Internet Photonics would not be able to terminate the merger agreement, even though its stockholders would receive less value for their shares of Internet Photonics. CIENA has agreed to issue approximately 24.1 million shares of CIENA common stock for all of Internet Photonics' outstanding capital stock, including the assumption of outstanding stock options and warrants to acquire Internet Photonics capital stock. This represented a value of approximately \$147.5 million on February 18, 2004, based on a per share price for CIENA common stock of \$6.127, which was the average of the closing price for CIENA's common stock for the ten trading days prior to the date of the merger agreement. Based on the closing price per share of CIENA common stock on March 24, 2004, these shares had an aggregate value of approximately \$114.4 million.

Directors and officers of Internet Photonics may have conflicts of interest that influenced their decisions to approve the merger.

You should be aware of potential conflicts of interest of, and the benefits available to, directors and executive officers of Internet Photonics, and their respective affiliates, upon the completion of the merger.

Some directors and executive officers of Internet Photonics, and their respective affiliates, have interests in the merger that are in addition to, or different from, their interests as Internet Photonics stockholders. Interests of such persons include:

- Stock ownership representing approximately 87.2% of the voting power of Internet Photonics on an as converted to common stock basis and execution of the action by written consent of stockholders in favor of the merger, the merger agreement, as amended, and the amendment of the certificate of incorporation of Internet Photonics;
- Payment upon completion of the merger of approximately 11,838,302 shares of CIENA common stock in respect of the aggregate liquidation preference payable for shares of Internet Photonics preferred stock held thereby;
- Payment of an aggregate of \$591,615 to sixteen Internet Photonics officers, at or above the vice president level, immediately prior to the effective time of the merger pursuant to the terms of Internet Photonics' retention plan;
- Acceleration of vesting of 13,333 shares of Internet Photonics restricted stock and stock options exercisable for up to 667,989 shares of Internet Photonics common stock; and
- Indemnification of directors and officers for a period of six years to the same extent as such persons were indemnified under Internet Photonics' certificate of incorporation and bylaws.

These interests are more fully described under "The Merger — Interests of Executive Officers and Directors in the Merger" below.

The structure and implementation of the merger involve a number of risks including risks of integration and unknown liabilities.

The merger involves the combination of CIENA with a private company with limited operating history and is a complex transaction. Among the risks the merger involves are risks of successful integration, potential liabilities that may be incurred as a result of the merger, tax consequences and accounting treatment.

Successful integration involves numerous risks, including:

- assimilating Internet Photonics' technology and product offerings, which may be more difficult than anticipated because the technology is very complex;
- coordinating research and development efforts, which may involve unexpected problems;
- diversion of management attention from business matters to integration issues;
- identifying and retaining key personnel which may be difficult in the combined company;
- integrating accounting, engineering, information technology and administrative systems which may be unexpectedly difficult or costly;
- making significant cash expenditures that may be required to retain personnel, eliminate unnecessary resources and integrate the business;
- maintaining uniform standards, controls, procedures and policies which may be harder than CIENA and Internet Photonics anticipate and interfere with efficient administration of the combined company; and
- changes in the businesses as a result of the merger that impair relationships with employees, customers or vendors.

In addition, as a result of the merger, CIENA will succeed to any liabilities of Internet Photonics now existing or arising out of Internet Photonics' businesses prior to closing, including unknown liabilities.

These liabilities may include liabilities to customers, suppliers or employees, as well as potential liabilities that can arise from intellectual property disputes.

Further, CIENA is proposing to issue approximately 75.9 million shares of common stock to acquire another private company, Catena Networks, Inc., at approximately the same time as the acquisition of Internet Photonics, and all of the risks described above exist with respect to that acquisition as well.

Failure to overcome these risks or any other problems encountered in connection with the merger could have a material adverse effect on CIENA's business, results of operations and financial condition.

FORWARD-LOOKING STATEMENTS

Some of the statements contained, or incorporated by reference, in this information statement/prospectus discuss future expectations, contain projections of results of operations or financial condition or state other “forward-looking” information. Those statements are subject to known and unknown risks, uncertainties and other factors that could cause the actual results to differ materially from those contemplated by the statements. The “forward-looking” information is based on various factors and was derived using numerous assumptions. In some cases, you can identify these so-called “forward-looking statements” by words like “may,” “will,” “should,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “potential,” or “continue” or the negative of those words and other comparable words. You should be aware that those statements only reflect our predictions. Actual events or results may differ substantially. Important factors that could cause our actual results to be materially different from the forward-looking statements are disclosed under the heading “Risk Factors” beginning on page 9 and throughout or incorporated in this information statement/prospectus.

APPROVAL OF THE MERGER AND THE AMENDED CERTIFICATE OF INCORPORATION

BY INTERNET PHOTONICS STOCKHOLDERS

Internet Photonics has obtained stockholder approval of the merger and adoption of the merger agreement, as amended. Internet Photonics has also obtained stockholder approval of an amendment to its certificate of incorporation. Under applicable Delaware General Corporation Law, or the DGCL, and Internet Photonics' certificate of incorporation, no further vote or consent of any other stockholder of Internet Photonics is necessary to approve the merger and adopt the merger agreement. Similarly, no further vote or consent of any other stockholder of Internet Photonics is necessary to approve the amendment to the Internet Photonics certificate of incorporation. Accordingly, Internet Photonics is not soliciting any stockholder votes or consents by this information statement/prospectus. **INTERNET PHOTONICS IS NOT ASKING YOU FOR A PROXY AND YOU ARE REQUESTED NOT TO SEND INTERNET PHOTONICS A PROXY.**

Approval of Merger and Merger Agreement

Following consideration at a meeting held on February 14, 2004, by unanimous written consent dated February 18, 2004, the Internet Photonics board of directors approved and adopted the merger and the merger agreement and determined that the merger and the merger agreement are in the best interests of Internet Photonics and its stockholders. Internet Photonics' board of directors also recommended that the stockholders of Internet Photonics authorize, adopt and approve the merger and merger agreement.

Pursuant to Internet Photonics' certificate of incorporation and applicable law, the holders of Internet Photonics common stock are entitled to one vote per share on all matters voted upon by Internet Photonics stockholders and the holders of Internet Photonics preferred stock are entitled to vote along with the common stock on any matter voted upon by common stockholders, on an as-converted to common stock basis. In addition, Internet Photonics' certificate of incorporation provides that a merger also requires approval by more than 64% of the outstanding shares of Internet Photonics preferred stock, voting together as a class on an as-converted to common stock basis.

On February 18, 2004, Sprout Plan Investors, L.P., Sprout Capital IX, L.P., Sprout Entrepreneurs' Fund, L.P., DLJ ESC II, L.P., DLJ Capital Corporation, ComVentures V, L.P., ComVentures V-A CEO Fund, L.P., ComVentures V-B CEO Fund, L.P., ComVentures V Entrepreneurs' Fund, L.P., Running Bug Investments, L.P., Theodore K. Woodward, Anthony Lentine, Martin Nuss, Surya Panditi and Nicole A. Panditi Trust executed and delivered to Internet Photonics a written consent of stockholders of Internet Photonics approving the merger and adopting the merger agreement. As of that date, Internet Photonics had outstanding 485,141 shares of common stock and 43,628,761 shares of preferred stock convertible into 50,009,956 shares of common stock. The holders executing the written consent represented approximately 66% of the common stock outstanding and 87% of the preferred stock voting on an as-converted basis.

Following consideration at a meeting held on March 11, 2004, by unanimous written consent dated March 17, 2004, the Internet Photonics board of directors approved and adopted an amendment to the merger agreement. This amendment, among other things, reduced the number of shares of CIENA common stock to be issued in the merger by approximately 400,000 shares and permits Internet Photonics to make an aggregate cash payment of approximately \$2.3 million to Internet Photonics employees under the terms of the Internet Photonics, Inc. Retention Plan. The retention plan was adopted by written consent of the Internet Photonics board of directors on March 17, 2004 and provides for payment, immediately prior to the effective time of the merger, to certain employees identified in the retention plan. On March 17, 2004, the same stockholders identified above, representing the requisite number of shares of Internet Photonics capital stock, executed and delivered a written consent approving the merger and adopting the amendment to the merger agreement. The amendment to the merger agreement is included in Annex A to this information statement/prospectus.

As a result, in accordance with the DGCL and Internet Photonics' certificate of incorporation, the merger and the merger agreement, as amended, were approved and adopted by the requisite holders of the outstanding shares of capital stock of Internet Photonics entitled to vote on this matter. Under applicable

Securities and Exchange Commission rules, Internet Photonics may first take corporate action in accordance with the stockholder approval of the merger by written consent 20 business days after this information statement/ prospectus is first mailed to stockholders.

Approval of Amendment to Internet Photonics' Certificate of Incorporation

By unanimous written consent dated February 18, 2004, the Internet Photonics board of directors approved an amendment to the certificate of incorporation of Internet Photonics. The amendment provides that in the event of a sale of Internet Photonics in which the definitive transaction agreement specifically sets forth the means of valuing any non-cash consideration, the valuation provisions of the definitive transaction agreement shall apply instead of the valuation provisions of Internet Photonics' certificate of incorporation, which enables the board of directors to establish the fair market value of such non-cash consideration. The board of directors also recommended that the stockholders of Internet Photonics authorize, adopt and approve the amendment.

In addition to a required vote identical to that necessary for approval of the merger and the merger agreement, pursuant to the DGCL, the holders of Internet Photonics common stock were entitled to vote on the proposed amendment as a separate class.

On February 18, 2004, Sprout Plan Investors, L.P., Sprout Capital IX, L.P., Sprout Entrepreneurs' Fund, L.P., DLJ ESC II, L.P., DLJ Capital Corporation, ComVentures V, L.P., ComVentures V CEO Fund, L.P., ComVentures V Entrepreneurs' Fund, L.P, NV Partners II LP, Running Bug Investments, L.P., Theodore K. Woodward, Anthony Lentine and Martin Nuss executed and delivered to Internet Photonics a written consent of stockholders of Internet Photonics approving the amendment. As of that date, Internet Photonics had outstanding 485,141 shares of common stock and 43,628,761 shares of preferred stock convertible into 50,009,956 shares of common stock. The holders executing the written consent represented approximately 66% of the common stock outstanding and 94% of the preferred stock voting on an as-converted basis. A copy of the amendment to Internet Photonics' certificate of incorporation is attached as Annex C to this information statement/prospectus.

The certificate of amendment relating to the amendment described above was filed with the Secretary of State of the State of Delaware on March 3, 2004 and became effective upon filing. In accordance with the DGCL and Internet Photonics' certificate of incorporation, the amendment was approved and adopted by the holders of the requisite number of the outstanding shares of capital stock of Internet Photonics entitled to vote on this matter and no further approval is required.

Notice Under Section 228 of the DGCL

This information statement/prospectus serves as notice to Internet Photonics stockholders pursuant to Section 228 of the DGCL of the approval of the merger and the merger agreement, as amended, and of the amendment of Internet Photonics' certificate of incorporation by less than unanimous consent of stockholders.

THE MERGER

General

The board of directors of CIENA and the board of directors and stockholders of Internet Photonics have each approved the merger agreement, which provides for the merger of Internet Photonics with and into CIENA, with CIENA being the surviving corporation of the merger. The holders of Internet Photonics stock sufficient to approve the merger and adopt the merger agreement have done so by written consent. Each share of Internet Photonics common stock and Internet Photonics preferred stock outstanding immediately prior to the merger will be converted into the right to receive shares of CIENA common stock. The shares of Internet Photonics common stock and Internet Photonics preferred stock will be converted into a number of shares of CIENA common stock in accordance with the formulas specified in the merger agreement, as described under “Terms of the Merger Agreement and Related Transactions — Treatment of Stock, Options and Warrants.” Fractional shares of CIENA common stock will not be issued in connection with the merger, and Internet Photonics stockholders otherwise entitled to a fractional share will be paid in cash for the fractional share, in the manner described under “Terms of the Merger Agreement and Related Transactions — Exchange of Certificates; Fractional Shares.”

Background of the Merger

As a regular part of their business, CIENA and Internet Photonics from time to time have each independently considered opportunities to expand and strengthen their own technology, products, research and development capabilities and distribution channels, including distribution agreements, acquisitions, investments, licenses, development agreements and joint ventures. In particular, CIENA’s senior management has been interested in pursuing opportunities to penetrate the multi-system operator (MSO) market, and from time to time CIENA has had contact with various parties to explore on a preliminary basis strategic alternatives in connection with the same. The board of directors of Internet Photonics from time to time has considered both solicited and unsolicited offers from other parties to engage in possible business combinations with such parties. None of such discussions advanced beyond the preliminary stage.

On July 30, 2003, Bob Rodio, CIENA’s Vice President, Consultative Systems Engineering, Mike Frankel, Director, Products & Technology for CIENA, and Jim Brinksma, Senior Systems Engineer for CIENA, met with Greg Koss, President and Chief Executive Officer of Internet Photonics, Steve Waszak, Chief Financial Officer of Internet Photonics, Bill Koss, Vice President of Sales and Business Development of Internet Photonics, and Martin Nuss, Chief Technology Officer of Internet Photonics, at Internet Photonics’ offices in Shrewsbury, New Jersey. Internet Photonics provided an overview of the company, its products, and its addressable markets.

On the same day, CIENA and Internet Photonics entered into a general nondisclosure agreement.

On August 26, 2003, Messrs. Rodio and Brinksma, Tom Mock, CIENA’s Senior Vice President of Strategic Planning, and Jeff Wabik, CIENA’s Vice President of System Architecture, visited Internet Photonics’ offices in New Jersey to gather additional information on its products and technology. Internet Photonics was represented at this meeting by Messrs. Greg Koss, Waszak and Nuss.

On August 27, 2003, Mr. Rodio and Jim Collier, CIENA’s Senior Vice President, Corporate Development, met with Messrs. Greg Koss, Waszak, Nuss, and Bill Koss at Internet Photonics’ offices. Internet Photonics gave a presentation on its products, markets and technology.

Subsequent to that meeting, Mr. Collier spoke with Messrs. Greg Koss and Waszak about the potential for a business combination between the two companies.

On August 28, 2003, Internet Photonics engaged Credit Suisse First Boston (CSFB) to act as its financial advisor in connection with a proposed business combination or strategic investment.

On September 30, 2003, Messrs. Rodio, Collier, Mock and Steve Chaddick, CIENA’s Senior Vice President and Chief Strategy Officer, met with Greg Koss, Bill Koss and Messrs. Waszak and Nuss at

CIENA's offices in Maryland. Gary B. Smith, CIENA's President and Chief Executive Officer, participated in a portion of that meeting. The meeting focused on further review of Internet Photonics' products, markets and technology.

On October 13, 2003, Messrs. Rodio, Mock and Wabik returned to Internet Photonics' offices in New Jersey and met with the following representatives from Internet Photonics: Greg Koss, Messrs. Waszak and Nuss, Anthony Lentine, Chief Scientist; Gary Southwell, Vice President of Marketing; Dave Payne, Assistant Vice President, Product Marketing and Management; Larry Samberg, General Manager, Packet Solutions; Graham Smith, Vice President, Systems Engineering/Test; Steven Surek, System Architect; and Theresa Cauble, Director, Product Marketing. The meeting focused on a detailed review of Internet Photonics' product architecture and future product developments, and was followed by a brief laboratory product demonstration.

On November 18, 2003, Messrs. Collier, Rodio, Mock and Chaddick, Steve Alexander, CIENA's Senior Vice President and Chief Technology Officer, Joseph Chinnici, CIENA's Senior Vice President, Finance and Chief Financial Officer, Ed Ogonek, CIENA's Senior Vice President and General Manager, Metro and Enterprise Solutions Group, and Francois Locoh-Donou, CIENA's Vice President of Marketing, met with Greg Koss, Bill Koss and Messrs. Waszak, Nuss, Southwell, Payne and Samberg, at Internet Photonics' offices in New Jersey. During this meeting, the parties discussed Internet Photonics' business, products, and market opportunities.

On November 26, 2003, at a special meeting of the Internet Photonics board of directors, Internet Photonics' senior management provided an update on the status of discussions with CIENA and the anticipated timetable for a possible transaction. After discussion, the Internet Photonics board of directors indicated its preliminary interest in continuing negotiations regarding such a transaction.

On or about December 2, 2003, Mr. Chaddick spoke with Cliff Higgerson, a member of the Internet Photonics board of directors, and a former member of the board of directors of CIENA, with respect to Internet Photonics' upcoming funding needs and CIENA's interest in further exploring a business combination.

On December 6, 2003, at a special meeting of the Internet Photonics board of directors, CSFB provided an update as to certain key terms of an anticipated offer from CIENA.

On December 10, 2003, CIENA engaged Morgan Stanley to act as its financial advisor in connection with a possible business combination with Internet Photonics.

On December 12, 2003, CIENA sent Internet Photonics a draft of a non-binding letter of intent with respect to a proposed business combination. Over the next several weeks, CIENA and Internet Photonics and their respective financial advisors negotiated the terms of the letter of intent.

On December 13, 2003, at a special meeting of the Internet Photonics board of directors, Internet Photonics' senior management and CSFB led a brief discussion as to the principal terms of the letter of intent delivered by CIENA. After discussion, the Internet Photonics board of directors requested that management and CSFB request clarification from CIENA regarding certain terms.

On December 19, 2003, at a special meeting of the Internet Photonics board of directors, Internet Photonics' senior management provided an update as to ongoing negotiations with CIENA. The Internet Photonics board of directors also resolved to create a "Merger and Acquisitions Committee," consisting of directors Higgerson, Steve Diamond, Wayne Nemeth and Surya Panditi, to continue work with Internet Photonics' senior management in negotiations with CIENA.

On December 22 and 23, 2003, Gary B. Smith spoke with Mr. Diamond to discuss proposed terms, including a proposed purchase price range.

On December 26, 2003, at a special meeting of the Internet Photonics board of directors, Internet Photonics' senior management and CSFB updated the board of directors as to the current status of the negotiations with CIENA. After discussion, the Internet Photonics board of directors gave preliminary

approval to the terms of the proposed acquisition and authorized senior management to finalize the non-binding letter of intent.

On December 31, 2003, at a special meeting of the Internet Photonics board of directors, the board of directors evaluated the final draft of the non-binding letter of intent. After discussion, the Internet Photonics board of directors approved the execution and delivery of this letter of intent.

On December 31, 2003, CIENA and Internet Photonics entered into a non-binding letter of intent, which provided, among other things, for a proposed purchase price of \$150 million in CIENA common stock (to be determined at the signing of a definitive merger agreement) for all of the equity of Internet Photonics on a fully-diluted basis.

On January 6, 2004, at a special meeting of the CIENA board of directors, CIENA's senior management and representatives of Morgan Stanley discussed the status of discussions with Internet Photonics regarding a proposed business combination, including the strategic and financial reasons for such a combination and the key terms from the non-binding letter of intent. After discussion, the CIENA board of directors expressed general support for the strategic value of an acquisition of Internet Photonics, and authorized management to continue discussions with a view toward reaching agreement on terms consistent with the non-binding letter of intent.

On January 6, 2004, CIENA's legal advisors from Hogan & Hartson commenced a legal due diligence review of Internet Photonics, which continued at Internet Photonics' New Jersey offices through January 9, 2004. Legal due diligence continued between the parties through mid-February 2004.

On January 8 and 9, 2004, a CIENA due diligence team conducted a series of meetings with Internet Photonics representatives. CIENA representatives at one or more of those meetings included Messrs. Collier, Chinnici, Ogonek and Locoh-Donou; Jesús León, Senior Vice President and Chief Development Officer; Arthur Smith, Senior Vice President Global Operations; Lynn Moore, Vice President Human Resources; Phil Moser, Vice President Sales Operations; Chad Whalen, Vice President Sales; Andrew Petrik, Vice President, Finance and Controller; Greg Sikon, Vice President Tax and Treasury Services; Dawn DiRocco, Assistant Controller; David Rothenstein, Assistant General Counsel; Vijay Sharma, Director Sales; Haji Munshi, Director, Strategic Marketing; Rich Koepper, Senior Director, Products & Technology; David Lynch, Principal Engineer, Products & Technology; and Rebecca Seidman, Human Resources Consultant. CIENA's financial advisors from Morgan Stanley, CIENA's legal advisors from Hogan & Hartson, and representatives from PricewaterhouseCoopers, CIENA's independent accountants, were also present at one or more of those meetings. Internet Photonics representatives at one or more of those meetings included Greg Koss, Bill Koss, Messrs. Waszak, Nuss, Payne, Southwell, Smith and Samberg, Phyllis Lockwood, Vice President, Human Resources, Tom Ertel, Vice President of Engineering, Mark Lampson, Director of Operations, and Tom Conway, Director of Customer Service. Internet Photonics' financial advisors from CSFB were also present at one or more of those meetings.

On January 14, 2004, Mr. Smith contacted Greg Koss to advise him that CIENA had entered into a non-binding letter of intent with Catena Networks, Inc., and was in the process of negotiating a proposed acquisition of that company.

On January 16, 2004, CIENA directed Hogan & Hartson to send to Internet Photonics and its legal advisors, Sonnenschein Nath & Rosenthal, a first draft of a definitive merger agreement and related agreements.

Also on January 16, 2004, at a special meeting of the Internet Photonics board of directors, the members of the Merger and Acquisitions Committee updated the board of directors as to certain discussions that had taken place following execution of the letter of intent. CSFB also provided an overview as to the likely timetable for an acquisition transaction.

On January 22, 2004, Sonnenschein Nath & Rosenthal sent to CIENA comments on the draft of the merger agreement and related agreements on behalf of Internet Photonics.

During the weeks of January 26-30 and February 2-6, 2004, representatives of CIENA and Internet Photonics and their respective legal advisors continued to negotiate the merger agreement and related agreements.

Late in the evening on February 2, 2004, Mr. Collier contacted Greg Koss and Mr. Diamond separately to inform them that CIENA intended to announce the next day its preliminary results for the first fiscal quarter ended January 31, 2004, which reported revenue in that quarter that was below CIENA's previously announced guidance range, and to advise them of the reasons for the same.

On February 6, 2004, Mr. Collier and Nick Jeffery, CIENA's Senior Vice President of Worldwide Sales, met with an international reseller of Internet Photonics' products to discuss the existing relationship, Internet Photonics' products and technology, the rollout of such products to the reseller's sales force, and the impact to the relationship in light of the potential transaction.

On February 12, 2004, an Internet Photonics due diligence team conducted meetings with CIENA representatives in Baltimore, Maryland. Internet Photonics representatives included Greg Koss and Messrs. Waszak and Nemeth. CIENA representatives included Messrs. Smith, Chinnici, Collier and Jeffery. Representatives of Morgan Stanley and CSFB were also present at the meetings.

On February 14, 2004, at a special meeting of the Internet Photonics board of directors, CSFB and Sonnenschein Nath & Rosenthal gave a presentation on the terms of the proposed acquisition as set forth in the definitive transaction agreements. Following a discussion, the Internet Photonics board of directors approved the acquisition of Internet Photonics by CIENA on those terms and directed senior management, in consultation with Internet Photonics' legal and financial advisors, to finalize, execute and deliver definitive transaction documents.

On February 14, 15 and 16, 2004, CIENA continued to perform due diligence with respect to the reseller relationship, including several conversations between Messrs. Collier and Greg Koss. Based on the additional information gathered in that process, CIENA determined to proceed with final negotiations of the definitive agreements.

On February 17 and 18, 2004, representatives of CIENA and Internet Photonics completed negotiations on the merger agreement and related agreements.

On February 18, 2004, the CIENA board of directors held its regularly scheduled quarterly meeting, at which CIENA's senior management team presented the proposed terms of the merger. The board received financial advice from Morgan Stanley on the financial terms of the proposed merger to CIENA. At the conclusion of the meeting, the CIENA board approved the terms of the merger and authorized management to complete and execute the merger agreement and related agreements.

Also on February 18, 2004, the Internet Photonics board of directors signed and delivered a unanimous written consent approving the form, terms and provisions of the merger agreement and related agreements, and authorizing management to execute those agreements.

The merger agreement and related documents were executed the evening of February 18, 2004

On February 18, 2004, stockholders holding the requisite number of shares of Internet Photonics capital stock delivered an executed written consent in lieu of a meeting adopting the merger agreement and approving the merger and the related transactions.

On February 19, 2004, CIENA and Internet Photonics issued a joint press release announcing the signing of the merger agreement.

On March 10 and 11, 2004, Messrs. Chinnici and Rothenstein and CIENA's legal advisors spoke with Messrs. Greg Koss and Waszak and Internet Photonics' legal advisors about the possibility of amending the merger agreement. The proposed amendment would reduce the number of shares of CIENA common stock to be issued in exchange for all of the equity of Internet Photonics by approximately 400,000 shares and permit Internet Photonics to adopt a retention plan and make cash payments totaling approximately \$2.3 million in the aggregate to its employees immediately prior to the closing of the

merger. The parties also discussed amending the terms of the existing bridge loan to increase Internet Photonics' borrowing limitation by \$2.5 million in order to allow an advance under the bridge loan sufficient to pay the aggregate cash retention payments to employees plus related payroll and employment taxes.

Also on March 11, 2004, at a special meeting of the Internet Photonics board of directors, the board of directors discussed the possible merger agreement amendment and the retention plan and gave its preliminary approval for management to proceed with effecting the same.

On March 15 and 16, 2004, the parties and their legal advisors exchanged drafts of and comments on the proposed Internet Photonics Inc. Retention Plan and amendments to the merger agreement and the credit and security agreement reflecting the above terms.

On March 17, 2004, the Internet Photonics board of directors signed and delivered a unanimous consent in lieu of a meeting approving the form, terms and provisions of the amendments to the merger agreement and the credit and security agreement, and authorizing management to execute the amendments. The Internet Photonics board of directors also adopted the Internet Photonics, Inc. Retention Plan, which provides for the payment of approximately \$2.3 million to Internet Photonics employees immediately prior to the effective time of the merger.

The amendments to the merger agreement and the credit and security agreement were executed by the parties on March 17, 2004.

On March 17, 2004, stockholders holding the requisite number of shares of Internet Photonics capital stock delivered an executed written consent in lieu of a meeting adopting the amendment to the merger agreement and approving the merger.

CIENA's Reasons for the Merger

Strategic Fit

Over the past few years, the retrenchment of the telecommunications industry has resulted in dramatically reduced demand for optical networking products that operate in the "core" portion of a network, including products that account for a significant portion of CIENA's revenues. In response, CIENA has pursued a corporate strategy designed to expand its addressable market and, thus, its opportunities to derive revenue. This strategy incorporates multiple elements, including (i) moving "up" the Open System Interconnection (OSI) Reference Model, the set of standards that allow for networking communications, from Layer 1, the "Physical Layer," into higher layers, (ii) moving "out" from the core further to the "edge" of a network, where the majority of carrier spending is expected to occur in the near future, and (iii) increasing sales to the most financially stable service providers — the regional Bell operating companies (RBOCs) in the United States and the PTTs and other incumbent operators in Europe and Asia, and multiple-system operators (MSOs), or cable companies.

In connection with this strategy, CIENA has identified equipment used to provide broadband services as an attractive element of this expanded addressable market. CIENA believes that the anticipated growth in demand for broadband voice, video and data services, including high-speed Internet access, video on demand and on-line gaming, is reshaping the telecommunications industry and driving the adoption of a new set of enabling technologies. This growth in demand has led and will lead to new revenue opportunities for service providers and, in turn, an increased demand for products that will allow the service providers to capitalize on those opportunities.

CIENA believes that the proposed acquisition of Internet Photonics fits with CIENA's strategy of expansion of its addressable market. Internet Photonics' suite of carrier-grade optical Ethernet transport and switching products will allow CIENA to expand its solution portfolio "up" into Layer 2 of the OSI, the "Data Link Layer," and "out" to the metropolitan and access portions of the network. The combination with Internet Photonics will also increase CIENA's addressable market by providing an opportunity to participate in the worldwide Ethernet services market, including the delivery of broadband

services to cable subscribers. Specifically, Internet Photonics' products will enable CIENA to target additional types of customers, including the MSOs, by providing flexible Gigabit Ethernet solutions that permit the cost-efficient delivery of new, growing broadband services such as Voice Over Internet Protocol (VOIP), high-speed Internet access and video on demand (VoD) (the so-called "triple play" of voice, data and video services), as well as existing services such as cable modem Internet access and broadcast television. The cable companies may also use these products in the future for real-time gaming and other high-bandwidth applications. In addition, the same carrier-grade Ethernet infrastructure will enable the traditional telecom carriers, particularly the international carriers and U.S. CLECs without a broad SONET or SDH installed base, to provide new Ethernet-based enterprise services in their metropolitan and access networks faster and at a lower cost. The potential also exists in the future to apply Internet Photonics' flexible, low-cost solutions to enhance CIENA's existing metropolitan and enterprise products.

In particular, CIENA believes that the following strategic benefits will result from the merger:

- **Network Convergence.** CIENA believes that the addition of Internet Photonics' products to the CIENA portfolio is consistent with CIENA's vision of network convergence. The Internet Photonics platforms allow multiple services to be offered in a single infrastructure in cable networks, allowing traditional cable and new video services such as VoD and HDTV to travel on a common infrastructure, and in traditional telecom networks, allowing SONET/ SDH services and Ethernet services to be combined on a common infrastructure. The Internet Photonics platforms also allow multiple network functions to be converged onto single devices, such as performing both optical transport and Ethernet switching functions in cable networks.
- **Cost Efficiency.** CIENA believes that Internet Photonics' product suite presents a cost-efficient solution to customers to enable rapid deployment of revenue-generating services that combine the simplicity of Ethernet with carrier-grade reliability and availability.
- **New Customer Relationships.** CIENA believes that Internet Photonics has developed valuable relationships with the MSOs, an incumbent customer base to which CIENA does not currently offer products. Six of the top ten cable operators in the United States are existing customers of Internet Photonics, including significant deployments by Cablevision and Adelphia. CIENA believes that these relationships will enhance CIENA's ability to compete for future business from the MSOs and complement CIENA's existing sales and distribution channels. CIENA also believes it will be able to leverage its existing sales channels and customer relationships to offer the Internet Photonics products to a wider range of customers than Internet Photonics currently reaches.
- **New International Sales Channel.** CIENA believes that Internet Photonics has established a valuable international resale relationship, which will provide an important sales channel for Internet Photonics' products in Europe and Asia. This relationship has already resulted in the sale of Internet Photonics' products into three PTT accounts, and has the potential to grow into a channel for some of CIENA's other products.
- **Expand Addressable Market.** CIENA believes that the proposed merger will expand its addressable market. CIENA currently does not have a product offering directly targeted at the worldwide Ethernet serviced market. Internet Photonics' product suite is a leading platform in this space and will give CIENA immediate entry into this fast-growing portion of the market.
- **Broader Scope.** CIENA believes that the current telecommunications environment makes vendors with a broad product portfolio more attractive to large incumbent carriers than companies with narrow or single point solutions. In an effort to simplify their networks and reduce operating expenses, large operators are reducing the number of equipment vendors, forming strong relationships with a few large, strategic vendors. CIENA believes that the acquisition of Internet Photonics will strengthen its position with major operators by allowing it to offer a more complete, complementary portfolio of products covering a larger portion of network operators' equipment needs.

Additional Reasons for the Merger

The strategic fit with Internet Photonics represents the principal rationale to CIENA for the merger. CIENA believes that the following factors also support the desirability of the merger to CIENA:

- ***Operating Expense Savings.*** It is expected that the proposed merger will result in certain operating expense cost savings, which will primarily be derived from the lower cost of research and development and the ability to leverage economies of scale. Additional savings may be possible through increased manufacturing efficiencies.
- ***Cultural Fit.*** CIENA and Internet Photonics share a common heritage as entrepreneurial companies. Both companies have established reputations for being flexible, innovative, and customer-focused.
- ***Strong Engineering Teams.*** CIENA believes that Internet Photonics has a strong engineering team that will add significantly to CIENA's engineering resources and enhance its ability to continue to innovate and rapidly bring new products to market.

In addition, the CIENA board of directors received advice from Morgan Stanley, its financial advisor, in connection with the financial terms of the proposed merger to CIENA.

In view of the variety of factors considered in connection with its evaluation of the merger, the CIENA board of directors did not quantify or otherwise assign relative weights to the factors considered in reaching its conclusions. In addition, individual members of the CIENA board of directors may have given different weights to different factors. However, on an overall basis, the CIENA board of directors concluded that the factors favoring the merger outweigh the countervailing factors.

For the strategic reasons set forth above, after consultation with CIENA's senior management and its advisors and consideration of the terms and conditions of the merger agreement and the transactions contemplated by the merger agreement, the CIENA board of directors determined that the merger agreement and the merger are in the best interests of CIENA and its stockholders.

Internet Photonics' Reasons for the Merger

At a special meeting held on February 14, 2004, the board of directors of Internet Photonics discussed, and on February 18, 2004, by unanimous written consent, the board of directors of Internet Photonics approved, the terms and conditions of the merger agreement and the transactions contemplated thereby, including the merger. On March 17, 2004, the board of directors of Internet Photonics signed and delivered a unanimous written consent approving an amendment to the merger agreement permitting Internet Photonics to adopt a retention plan and make cash payments totalling approximately \$2.3 million to its employees immediately prior to the closing of the merger and reducing the number of shares of CIENA common stock to be issued in the merger in exchange for all of the equity of Internet Photonics by approximately 400,000 shares. In evaluating the merger agreement and the transactions contemplated thereby, and deciding to approve them, the board of directors of Internet Photonics considered a number of factors, including the following:

- the consideration being offered by CIENA for shares of Internet Photonics' capital stock;
- Internet Photonics' prospects if it were to remain independent, including:
 - the resources necessary to insure Internet Photonics' future growth;
 - Internet Photonics' ability to raise the additional capital necessary for continuing operations and to expand its business, especially in light of the fact that Internet Photonics' operating plan indicated a need for additional investment capital in the near term and the investment terms for private companies like Internet Photonics have not been favorable;
 - Internet Photonics' ability to market efficiently, sell to and support its existing customers while remaining an independent, private company;

- Internet Photonics' ability to independently develop the necessary infrastructure to attract and support larger customers critical to Internet Photonics' long-term viability;
- the challenge faced by Internet Photonics of dedicating significant resources to growth while at the same time focusing on achieving profitability; and
- Internet Photonics' ability to continue to compete in the cable and telecommunications markets;
- the possible alternatives to the CIENA transaction, including:
 - the possibility of continuing to operate Internet Photonics as an independent entity and the resulting strain on Internet Photonics' resources such an option would present;
 - the possibility of continuing to seek another financial or strategic partner;
 - the range of possible benefits to Internet Photonics stockholders of these alternatives;
 - the timing and likelihood of accomplishing any of these alternatives; and
 - the contacts that had been made with potential acquirers and the fact that, although companies with a potential interest in acquiring Internet Photonics had been contacted, only discussions with CIENA had advanced beyond preliminary stages;
- the strategic value of Internet Photonics in the hands of a company with significantly greater financial resources and a more diverse product line, such as CIENA;
- the ability of the two companies to combine their technological resources to develop new products with increased functionality and bring them to market faster;
- the availability to the combined company of greater resources for product marketing and distribution;
- the likelihood that CIENA's offer would be completed, in light of the experience, reputation and financial capabilities of CIENA and the terms of the merger agreement;
- the belief of the board of directors of Internet Photonics, based on its assessment of the negotiations, that a more favorable purchase price could not be achieved through continued negotiations with CIENA;
- the fact that certain significant stockholders of Internet Photonics were willing to support the transaction, thereby increasing the likelihood that the conditions to CIENA's offer would be satisfied;
- the fact that the other conditions to CIENA's obligations to consummate the merger were customary and, in the assessment of the board of directors of Internet Photonics, not unduly onerous;
- the terms of the merger agreement including the limited conditions to the parties' respective obligations under the merger agreement; and that the exchange ratios in the merger agreement did not limit the appreciation of the value of CIENA's common stock;
- the expectation that the merger will qualify as a tax-free reorganization under federal tax law;
- the opportunity created by the merger for Internet Photonics' stockholders to share in the combined company's long term growth;
- information concerning Internet Photonics' and CIENA's respective businesses, historical financial performance and condition, operations, technology, products, customers, competitive positions, prospects and management; and

- due diligence discussions with CIENA by the board of directors of Internet Photonics and reports from management of Internet Photonics as to the results of its due diligence investigation of CIENA.

The board of directors of Internet Photonics also identified and considered a variety of potentially negative factors in its deliberations concerning the merger, including, but not limited to:

- the risk that the potential benefits sought in the merger might not be fully realized;
- the possibility that the merger might not be completed and the effect such a result would have on Internet Photonics' operations;
- that the exchange ratios in the merger agreement provided no protection against the depreciation of the value of CIENA's common stock;
- the challenges relating to the integration of the two companies;
- the possibility of management and employee disruption associated with the proposed merger and integrating the operations of the companies; and
- the risks relating to CIENA's business and how they would affect the operations of the combined company.

The board of directors of Internet Photonics believed that these negative factors were outweighed by the potential benefits of the merger. In view of the wide variety of factors, both positive and negative, considered by the board of directors of Internet Photonics, the board of directors of Internet Photonics did not find it practical to, and did not, quantify or otherwise assign relative weights to the specific factors considered and did not find that any factor was of special importance. Rather, the board of directors of Internet Photonics viewed its position and recommendations as being based on the totality of the information presented to and considered by it. In addition, different members of the board of directors of Internet Photonics may have assigned different weights to the various factors described above.

For the reasons discussed above, the board of directors of Internet Photonics unanimously approved the merger agreement and the merger, unanimously determined that the merger is fair to, and in the best interests of, Internet Photonics and its stockholders and unanimously recommended that the stockholders of Internet Photonics adopt the merger agreement and approve the merger.

In addition, the board of directors of Internet Photonics considered the interests that its officers and directors may have with respect to the merger in addition to their interests as stockholders of Internet Photonics. See “— Interests of Executive Officers and Directors in the Merger” for a more complete discussion of these interests.

Interests of Executive Officers and Directors in the Merger

Internet Photonics stockholders should be aware that some Internet Photonics directors and executive officers have interests in the merger and related arrangements that are different from, or in addition to, their interests as Internet Photonics stockholders. These interests may create potential conflicts of interest for these directors and officers because they may be more likely to approve the merger than Internet Photonics stockholders generally. The Internet Photonics board of directors was aware of these interests and took these interests into account in its deliberations of the merits of the merger and in approving the merger and the transactions contemplated by the merger agreement.

Stock Ownership; Liquidation Preference Payment.

The executive officers and directors of Internet Photonics, and the stockholders of Internet Photonics affiliated with them, will own a majority of the shares to be issued by CIENA in the merger. As of March 1, 2004, the directors and executive officers of Internet Photonics, and their respective affiliates, beneficially owned 3,074,738 shares of common stock, no shares of series A preferred stock, 1,608,329 shares of series B preferred stock, 7,776,073 shares of series C preferred stock, 26,276,296 shares of

series D preferred stock and 8,245,230 shares of series E preferred stock, all on as-converted to common stock basis, representing approximately 87.2% of the voting power of the fully-diluted outstanding Internet Photonics capital stock. See “Approval of the Merger and the Amended Certificate of Incorporation by Internet Photonics Stockholders” for a discussion of the written consents executed by certain stockholders of Internet Photonics, including certain directors and executive officers, and their respective affiliates.

Because the merger constitutes a sale event under the certificate of incorporation of Internet Photonics, holders of Internet Photonics preferred stock will receive payment of the liquidation preference applicable to the series of Internet Photonics preferred stock they held at the effective time of the merger. Pursuant to the terms of the merger agreement and the certificate of incorporation of Internet Photonics, the liquidation preference applicable to each series of Internet Photonics preferred stock will be payable in shares of CIENA common stock at a fixed value of \$6.127 per share. In respect of their aggregate liquidation preference of approximately \$72,533,275, directors and executive officers of Internet Photonics, and their respective affiliates, that own shares of Internet Photonics preferred stock, will receive an aggregate of approximately 11,838,302 shares of CIENA common stock upon the closing of the merger. In addition, affiliates of members of the Internet Photonics board of directors hold preferred stock warrants exercisable for 68,721 shares of series C preferred stock and 199,996 shares of series D preferred stock. Exercise of such warrants in full would result in payment of an additional liquidation preference of \$887,206 to such persons. For additional information regarding this liquidation preference and the consideration payable to holders of Internet Photonics preferred stock in the merger, see “Terms of the Merger Agreement and Related Transactions — Treatment of Stock, Options and Warrants.”

Payments under the Internet Photonics Retention Plan

Pursuant to the terms of the Internet Photonics, Inc. Retention Plan (the “retention plan”), Internet Photonics will make cash payments totaling approximately \$2.3 million in the aggregate to certain Internet Photonics employees immediately prior to the closing of the merger, provided they are employees of Internet Photonics at such time. Under the retention plan, sixteen Internet Photonics officers, at or above the vice president level, will collectively receive an aggregate cash payment of \$591,615 immediately prior to the effective time of the merger. Payments to such officers range from approximately \$5,000 to \$67,000 per person.

Acceleration of Vesting of Internet Photonics Restricted Stock and Options.

Upon completion of the merger, Internet Photonics’ right to repurchase an aggregate of 13,333 shares of Internet Photonics restricted common stock held by Martin Nuss at a price of \$0.009374 per share will terminate and such shares shall become fully vested. In addition, if the merger is completed, options to acquire an aggregate 667,989 shares of Internet Photonics common stock held by directors and executive officers as of March 1, 2004 will vest and become immediately exercisable. The weighted average exercise price of all such options is \$0.62 per share.

Indemnification

The merger agreement provides that, upon the completion of the merger, for a period of six years CIENA will fulfill the obligations of Internet Photonics to indemnify and hold harmless each person who is or was a director or officer of Internet Photonics against any losses incurred based upon matters existing or occurring prior to the completion of the merger to the same extent that these persons were indemnified pursuant to Internet Photonics’ certificate of incorporation, bylaws or any indemnification agreement immediately prior to the merger.

Accounting Treatment

The merger is expected to be accounted for using the purchase method of accounting. CIENA will be deemed the acquiror for financial reporting purposes. Under the purchase method of accounting, the purchase price in the merger is allocated among the Internet Photonics assets acquired and the Internet Photonics liabilities assumed to the extent of their fair market value, with any excess purchase price being allocated to goodwill.

Listing on The Nasdaq Stock Market

CIENA has agreed to cause the shares of CIENA common stock issued in the merger to be approved for listing on the Nasdaq Stock Market.

Governmental and Regulatory Approvals

The Hart-Scott-Rodino Antitrust Improvements Act of 1976 as amended (the “HSR Act”) and its related rules and regulations prohibit Internet Photonics and CIENA from completing the merger until CIENA and Internet Photonics each file notifications with the Antitrust Division of the Department of Justice and the Federal Trade Commission, and the Hart-Scott-Rodino waiting period requirements have been satisfied. Even after the Hart-Scott-Rodino waiting period expires or is terminated, and even after the merger is completed, the Antitrust Division or the Federal Trade Commission could challenge the merger on antitrust grounds. In addition, before or after the merger is completed, states and private litigants could also challenge the merger on antitrust grounds. CIENA and Internet Photonics each filed Hart-Scott-Rodino notifications with the Federal Trade Commission and the Antitrust Division on February 26, 2004, and the waiting period was terminated on March 10, 2004.

U.S. Federal Income Tax Consequences

Generally

The following discussion describes the material U.S. federal income tax consequences of the exchange of shares of Internet Photonics’ capital stock for CIENA common stock pursuant to the merger that are generally applicable to holders of Internet Photonics capital stock. This discussion is based on currently existing provisions of the Internal Revenue Code of 1986, as amended (the “Tax Code”), existing and proposed Treasury regulations thereunder and current administrative rulings and court decisions, all of which are subject to change. Any such change, which may or may not be retroactive, could alter the tax consequences to Internet Photonics stockholders as described herein. Neither Internet Photonics nor CIENA has requested nor will request a ruling from the Internal Revenue Service with regard to any of the tax consequences of the merger.

Internet Photonics stockholders should be aware that this discussion does not deal with all U.S. federal income tax considerations that may be relevant to particular Internet Photonics stockholders in light of their particular circumstances, such as stockholders who are dealers in securities, stockholders who received their shares in connection with the performance of services where such shares were subject to vesting restrictions, stockholders who are subject to the alternative minimum tax provisions of the Tax Code, stockholders who are foreign persons, insurance companies, tax-exempt organizations, financial institutions, or broker-dealers, stockholders who hold their shares as part of a hedge, straddle, conversion or other risk-reduction transaction, stockholders who do not hold their Internet Photonics stock as capital assets, stockholders who hold their Internet Photonics stock through a partnership or other pass-through entity or stockholders who acquired their shares in connection with stock option or stock purchase plans or in other compensatory transactions. In particular, this discussion does not discuss the tax consequences of payments that may be subject to the “golden parachute” provisions of the Tax Code. In addition, unless specifically addressed below, the following discussion does not address the tax consequences of the merger under foreign, state or local tax laws, the tax consequences of transactions effectuated prior or subsequent to, or concurrently with, the merger (whether or not any such transactions are undertaken in connection with the merger), including without limitation any transaction in which shares of Internet Photonics capital stock are acquired or shares of CIENA common stock are disposed of, or the tax consequences of the assumption by CIENA of the Internet Photonics employee options or the tax consequences of any receipt of rights to acquire CIENA common stock.

Accordingly, Internet Photonics stockholders are urged to consult their own tax advisors as to the specific tax consequences to them of the merger, including the applicable federal, state, local and foreign tax consequences.

In the opinion of Hogan & Hartson L.L.P., counsel to CIENA, and Sonnenschein Nath & Rosenthal LLP, counsel to Internet Photonics, the merger will be treated for U.S. federal income tax purposes as a reorganization within the meaning of Section 368(a) of the Tax Code. The opinions:

- will not be binding on the IRS or the courts nor preclude the IRS from adopting a contrary position;
- will be based on the assumption that the merger will be completed in accordance with the terms of the merger agreement; and
- will be subject to the limitations discussed below.

Additionally, the opinions will be based on certain assumptions and limitations, as well as factual representations made by, among others, CIENA and Internet Photonics. Such representations, if incorrect, could jeopardize the conclusions reached in the opinions. Neither CIENA nor Internet Photonics is currently aware of any facts or circumstances which would cause any such representations made to counsel to be untrue or incorrect in any material respect. Hogan & Hartson L.L.P. and Sonnenschein Nath & Rosenthal LLP are under no obligation to update the opinions as a result of a change in law or discovery of any inaccuracy in such representations.

U.S. Federal Income Tax Consequences if the Merger Qualifies as a Reorganization

Assuming the merger qualifies as a reorganization within the meaning of Section 368(a) of the Tax Code and the merger is completed under the current terms of the merger agreement, subject to the discussion below under the heading “Taxation of Escrowed Shares,” the following U.S. federal income tax consequences generally will result:

- No gain or loss will be recognized by holders of Internet Photonics capital stock solely upon their receipt of CIENA common stock, including CIENA common stock subject to the escrow, in exchange for such Internet Photonics capital stock in the merger (except with respect to cash received in lieu of fractional shares and escrowed CIENA common stock sold to either reimburse expenses of the stockholders’ representative or to make indemnification payments to CIENA as discussed below).
- The aggregate tax basis of the CIENA common stock received by each Internet Photonics stockholder in the merger (including any fractional share interest in CIENA common stock and CIENA common stock subject to the escrow) will be the same as the aggregate tax basis of the Internet Photonics capital stock surrendered by such Internet Photonics stockholder in exchange therefor.
- The holding period of the CIENA common stock received by each Internet Photonics stockholder in the merger (including the CIENA common stock subject to the escrow) will include the period for which the Internet Photonics capital stock surrendered in exchange therefor was considered to be held, provided that the Internet Photonics capital stock so surrendered is held as a capital asset at the time of the merger.
- Any cash payment received by a holder of Internet Photonics capital stock in lieu of a fractional share of CIENA common stock will be treated as if such fractional share had been issued in the merger and then redeemed by CIENA. An Internet Photonics stockholder receiving such cash will recognize gain or loss upon such payment, measured by the difference, if any, between the amount of cash received and the stockholders’ basis in such fractional share. The gain or loss will be capital gain or loss provided that the shares of Internet Photonics capital stock were held as capital assets and will be long-term capital gain or loss if the Internet Photonics capital stock exchanged for that fractional share of CIENA common stock had been held for more than one year at the time of the merger. However, if the receipt of cash instead of fractional shares is essentially equivalent to a dividend (determined by application of Section 302 of the Tax Code on a stockholder by stockholder basis), the cash payment may be treated as dividend income to the stockholder not reduced by the stockholder’s tax basis in the fractional share. Under existing Treasury regulations, such tax basis would be allocated to the stockholder’s aggregate tax basis in CIENA common stock

retained, but if proposed Treasury regulations are finalized in their current form prior to the effective time, the loss with respect to such tax basis would be allowed upon a certain reduction of the stockholder's direct or indirect interest in CIENA common stock, or upon certain other events, all determined in accordance with Section 302 of the Tax Code and the Treasury regulations thereunder. A dividend realized by an individual stockholder should be subject to a maximum tax rate of 15 percent. A dividend realized by a corporate stockholder may be entitled to a dividends received deduction unless the dividend is treated as an extraordinary dividend under Section 1059 of the Tax Code.

- If an Internet Photonics stockholder dissents to the merger and receives solely cash in exchange for such stockholder's Internet Photonics capital stock, although the law is subject to uncertainty, such cash generally should be treated as a distribution in redemption of such stockholder's Internet Photonics capital stock. The stockholder should recognize gain or loss measured by the difference between the amount of cash received and the adjusted tax basis of the Internet Photonics capital stock surrendered. However, in certain situations when the stockholder owns CIENA common stock directly or indirectly by reason of certain attribution rules set forth in the Tax Code, the cash received could be treated as dividend income to the stockholder not reduced by the stockholder's tax basis in the stockholder's Internet Photonics capital stock. Under existing Treasury regulations, such tax basis would be allocated to the stockholder whose stock was attributed to the dissenting stockholder, but if proposed Treasury regulations are finalized in their current form prior to the effective time, the loss with respect to such tax basis would be allowed upon a certain reduction of the stockholder's indirect interest in CIENA common stock, or upon certain other events, all determined in accordance with Section 302 of the Tax Code and the Treasury regulations thereunder. Different tax consequences will apply to any interest awarded by a court to a dissenting Internet Photonics stockholder.

Taxation of Escrowed Shares

Internet Photonics stockholders will be treated as owning an allocable portion of the CIENA common stock issued in the merger and deposited in escrow. An allocable portion of any dividends received on escrowed stock will be taxed to each former Internet Photonics stockholder as ordinary income when such amounts are received by the escrow agent. CIENA does not anticipate declaring dividends. The escrow agreement provides that a portion of the shares of CIENA common stock placed in escrow may be sold to reimburse the expenses of the stockholders' representative. In addition, the escrow agreement provides CIENA the option to elect to be indemnified from the escrow fund by either return of escrowed shares of CIENA common stock or by payment of the cash proceeds from the sale of escrowed shares of CIENA common stock, in each case valued at \$6.127 per share. In the case of reimbursement of expenses or indemnification in cash through the sale of escrowed shares, the sale of such shares of CIENA common stock will be treated as a taxable sale to the Internet Photonics stockholders. Each Internet Photonics stockholder will recognize capital gain or loss as a result of such sale, measured as the difference between such Internet Photonics stockholder's basis in such sold shares of CIENA common stock and the sales price of such shares of CIENA common stock. Likewise, Internet Photonics stockholders will be allocated their portion of any interest or other income earned from the investment of the proceeds of such sale. No gain or loss will be recognized by an Internet Photonics stockholder upon the distribution of escrowed stock to the stockholder upon termination of the escrow arrangement or upon the release of escrowed stock to CIENA pursuant to the terms of the escrow agreement. The tax basis of CIENA common stock released to CIENA would be spread among the Internet Photonics stockholder's tax basis in remaining CIENA common stock (including remaining CIENA common stock held in escrow).

Tax Reporting

Each of CIENA and Internet Photonics has agreed to report the merger as a reorganization within the meaning of Section 368(a) of the Tax Code in all applicable U.S. federal, and to the extent permitted, state tax returns filed by each party. Each Internet Photonics stockholder will be required to file with such stockholder's U.S. federal income tax return a statement setting forth certain facts relating to the merger.

U.S. Federal Backup Withholding

A holder of Internet Photonics capital stock may be subject, under some circumstances, to backup withholding at a rate of 28% with respect to certain payments made in the merger unless the holder provides proof of an applicable exemption or a correct taxpayer identification number, and otherwise complies with applicable requirements of the backup withholding rules. Any amounts withheld under the backup withholding rules are not an additional tax and may be refunded or credited against the holder's U.S. federal income tax liability, provided the required information is furnished to the Internal Revenue Service.

Appraisal Rights of Dissenting Stockholders of Internet Photonics

If the merger is completed, a holder of record of Internet Photonics stock on the date of making a demand for appraisal, as described below, will be entitled to have those shares appraised by the Delaware Court of Chancery under Section 262 of the Delaware General Corporation Law or DGCL, and to receive payment for the "fair value" of those shares instead of the consideration provided for in the merger agreement. In order to be eligible to receive this payment, however, an Internet Photonics stockholder must (1) continue to hold his or her shares through the time of the merger; and (2) strictly comply with the procedures discussed under Section 262. This information statement/prospectus is being sent to all holders of record of Internet Photonics stock and constitutes notice of the appraisal rights available to those holders under Section 262.

The following summary is not a complete statement of Section 262 of the DGCL, and is qualified in its entirety by reference to Section 262, which is incorporated herein by reference, together with any amendments to the laws that may be adopted after the date of this information statement/prospectus. A copy of Section 262 is attached as Annex B to this information statement/prospectus. **The statutory right of appraisal granted by Section 262 requires strict compliance with the procedures in Section 262. Failure to follow any of these procedures may result in a termination or waiver of dissenters' rights under Section 262.**

A holder of Internet Photonics stock who elects to exercise appraisal rights under Section 262 must deliver a written demand for appraisal of its shares of Internet Photonics before April 19, 2004. The written demand must identify the stockholder of record and state the stockholder's intention to demand appraisal of his or her shares. All demands should be delivered to CIENA Corporation, 1201 Winterson Road, Linthicum, Maryland 21090, Attention: Corporate Secretary.

Only a holder of shares of Internet Photonics stock on the date of making a written demand for appraisal who did not execute the written consent approving the merger and who continuously holds those shares through the time of the merger is entitled to seek appraisal. Demand for appraisal must be executed by or for the holder of record, fully and correctly, as that holder's name appears on the holder's stock certificates representing shares of Internet Photonics stock. If Internet Photonics stock is owned of record in a fiduciary capacity by a trustee, guardian or custodian, the demand should be made in that capacity. If Internet Photonics stock is owned of record by more than one person, as in a joint tenancy or tenancy in common, the demand should be made by or for all owners of record. An authorized agent, including one or more joint owners, may execute the demand for appraisal for a holder of record; that agent, however, must identify the record owner or owners and expressly disclose in the demand that the agent is acting as agent for the record owner or owners of the shares.

A record holder such as a broker who holds shares of Internet Photonics stock as a nominee for beneficial owners, some of whom desire to demand appraisal, must exercise appraisal rights on behalf of those beneficial owners with respect to the shares of Internet Photonics stock held for those beneficial owners. In that case, the written demand for appraisal should state the number of shares of Internet Photonics stock covered by it. Unless a demand for appraisal specifies a number of shares, the demand will be presumed to cover all shares of Internet Photonics stock held in the name of the record owner.

Beneficial owners who are not record owners and who intend to exercise appraisal rights should instruct the record owner to comply with the statutory requirements with respect to the exercise of appraisal rights before April 19, 2004.

Within 10 days after the merger, the surviving or resulting corporation is required to send a notice of the effectiveness of the merger to each Internet Photonics stockholder who, in response to this information statement/prospectus, has timely delivered a notice of intent to demand appraisal as set forth in the third paragraph of this section.

Within 120 days after the merger, the surviving corporation or any stockholder who has complied with the requirement of Section 262 may file a petition in the Delaware Court of Chancery demanding a determination of the fair value of the shares of Internet Photonics stock held by all stockholders seeking appraisal. A dissenting stockholder must serve a copy of the petition on the surviving corporation. If no petition is filed by either the surviving corporation or any dissenting stockholder within the 120-day period, the rights of all dissenting stockholders to appraisal will cease. Stockholders seeking to exercise appraisal rights should not assume that the surviving corporation will file a petition with respect to the appraisal of the fair value of their shares or that the surviving corporation will initiate any negotiations with respect to the fair value of those shares. The surviving corporation shall be under no obligation to and CIENA, as the surviving corporation in the merger, has no present intention to take any action in this regard. Accordingly, stockholders who wish to seek appraisal of their shares should initiate all necessary action with respect to the perfection of their appraisal rights within the time periods and in the manner prescribed in Section 262. **Failure to file the petition on a timely basis will cause the stockholder's right to an appraisal to cease.**

Within 120 days after the time of the merger, any stockholder who has complied with subsections (a) and (d) of Section 262 is entitled, upon written request, to receive from the surviving corporation a statement setting forth the total number of shares of Internet Photonics stock not voted in favor of the merger with respect to which demands for appraisal have been received by Internet Photonics and the number of holders of those shares. The statement must be mailed within 10 days after Internet Photonics has received the written request or within 10 days after the time for delivery of demands for appraisal under subsection (d) of Section 262 has expired, whichever is later.

If a petition for an appraisal is filed in a timely manner, at the hearing on the petition, the Delaware Court of Chancery will determine which stockholders are entitled to appraisal rights and will appraise the shares of Internet Photonics stock owned by those stockholders. The court will determine the fair value of those shares, exclusive of any element of value arising from the accomplishment or expectation of the merger, together with a fair rate of interest, to be paid, if any, upon the fair value.

Stockholders who consider seeking appraisal should consider that the fair value of their shares under Section 262 could be more than, the same as, or less than, the value of the consideration provided for in the merger agreement without the exercise of appraisal rights. The Court of Chancery may determine the cost of the appraisal proceeding and assess it against the parties as the Court deems equitable. Upon application of a dissenting stockholder, the Court may order that all or a portion of the expenses incurred by any dissenting stockholder in connection with the appraisal proceeding (including, without limitation, reasonable attorney's fees and the fees and expenses of experts) be charged pro rata against the value of all shares of Internet Photonics stock entitled to appraisal. In the absence of a court determination or assessment, each party bears its own expenses.

Any stockholder who has demanded appraisal in compliance with Section 262 will not, after the merger, be entitled to vote such stock for any purpose or receive payment of dividends or other distributions, if any, on the Internet Photonics stock, except for dividends or distributions, if any, payable to stockholders of record at a date prior to the merger.

A stockholder may withdraw a demand for appraisal and accept the CIENA common stock at any time within 60 days after the merger. If an appraisal proceeding is properly instituted, it may not be dismissed as to any stockholder without the approval of the Delaware Court of Chancery, and any such approval may be conditioned on the Court of Chancery's deeming the terms to be just. If, after the merger, a holder of Internet Photonics stock who had demanded appraisal for his or her shares fails to perfect or loses his or her right to appraisal, those shares will be treated under the merger agreement as if they were converted into CIENA common stock at the time of the merger.

In view of the complexity of these provisions of the Delaware corporate law, any Internet Photonics stockholder who is considering exercising appraisal rights should consult a legal advisor.

TERMS OF THE MERGER AGREEMENT AND RELATED TRANSACTIONS

The following summary of the material terms and provisions of the merger agreement is qualified in its entirety by reference to the merger agreement. The merger agreement, as amended, is attached as Annex A to this information statement/prospectus and is incorporated herein by reference. All stockholders are urged to read the merger agreement carefully.

General

The merger agreement provides that Internet Photonics will be merged with and into CIENA, at the effective time of the merger. Pursuant to the merger agreement, Internet Photonics will cease to exist as a separate entity and CIENA will be the surviving corporation. At the effective time of the merger, each outstanding share of Internet Photonics capital stock (other than treasury shares and shares held by dissenting stockholders) will be converted into CIENA common stock, all as more fully described below. The certificate of incorporation of CIENA will be the certificate of incorporation of the surviving corporation. The bylaws of CIENA will be the bylaws of the surviving corporation.

Management and Operations After the Merger

Following the merger, CIENA will integrate all of Internet Photonics' operations into its Metro and Enterprise Solutions Group. All of the officers and directors of CIENA before the merger will remain officers and directors of the surviving corporation after the merger.

Treatment of Stock, Options and Warrants

At the effective time of the merger, each issued and outstanding share of Internet Photonics capital stock will be converted into shares of CIENA common stock in accordance with the terms of the merger agreement and the certificate of incorporation of Internet Photonics as described below. Each share of CIENA common stock issued in the merger will include the corresponding fraction of a right to purchase shares of junior preferred stock, par value \$0.01 per share, pursuant to the Rights Agreement dated as of December 29, 1997 between CIENA and Equiserve Trust Co., N.A. (formerly BankBoston, N.A.), as rights agent, as amended. Shares of Internet Photonics capital stock held in the treasury of Internet Photonics will be canceled and extinguished at the effective time of the merger without the payment of any consideration.

Subject to the indemnification and escrow arrangements described below, CIENA has agreed to issue an aggregate of 24,080,843 shares of its common stock in exchange for all of Internet Photonics' outstanding common and preferred stock and for the assumption of certain outstanding options and warrants to purchase Internet Photonics capital stock. You should review "— Indemnification and Escrow Arrangement" for a discussion of the CIENA common stock otherwise distributable at closing, that will not be delivered to the Internet Photonics stockholders but will instead be deposited into an escrow fund to secure certain indemnity claims CIENA may make for up to one year.

Because the consummation of the merger will constitute a sale event under the terms of the certificate of incorporation of Internet Photonics, at the effective time of the merger, holders of each series of Internet Photonics preferred stock will receive payment in shares of CIENA common stock of their respective liquidation preference. Each share of CIENA common stock to be issued in respect of each series of preferred stock's liquidation preference has a fixed value of \$6.127 per share pursuant to the terms of the merger agreement. Payment of the liquidation preference shall be made to holders of Internet Photonics preferred stock prior to any payment or allocation of merger consideration to holders of Internet Photonics common stock. The liquidation preference payable to each series of Internet Photonics preferred stock is set forth in the certificate of incorporation of Internet Photonics and based upon the original purchase price for such series, plus any declared but unpaid dividends in respect of such series. As of March 17, 2004, no dividends had been declared on any series of Internet Photonics preferred stock and

the number of shares of CIENA common stock payable for each share of Internet Photonics preferred stock in respect of the liquidation preference was as follows:

Series of Internet Photonics Preferred Stock	Liquidation Preference(\$)	Shares of CIENA Common Stock per share of Internet Photonics Preferred Stock	Approximate Aggregate Shares of CIENA Common Stock in Payment of Liquidation Preference
Series A preferred stock	\$10.00	1.632	1,278,494
Series B preferred stock	\$10.00	1.632	1,958,543
Series C preferred stock	\$10.00	1.632	3,909,638
Series D preferred stock	\$ 1.00	0.163	5,059,571
Series E preferred stock	\$ 1.50	0.245	2,019,749
Total number of shares of CIENA common stock in payment of the liquidation preference of all series of Internet Photonics preferred stock			14,225,995

The amounts above represent the liquidation price payable to each series of Internet Photonics preferred stock divided by \$6.127, the average closing price per share of CIENA common stock reported on the Nasdaq National Market for the ten trading days prior to the date of the merger agreement. In addition to the amounts above, preferred stock warrants for 68,721 shares of series C preferred stock, 432,496 shares of series D preferred stock and 20,000 shares of series E preferred stock are outstanding and exercisable as of March 1, 2004. Any exercise of these preferred stock warrants would increase the number of shares to be issued in satisfaction of the aggregate liquidation preference in respect of outstanding Internet Photonics preferred stock and decrease the applicable common stock exchange ratio.

Following payment of approximately 14,225,995 shares of CIENA common stock in satisfaction of the aggregate liquidation preferences in respect of outstanding shares of Internet Photonics preferred stock, each share of Internet Photonics common stock and preferred stock (other than series A preferred stock), treating each series of Internet Photonics preferred stock on an as-converted into Internet Photonics common stock basis, shall be exchanged for a fraction of a share of CIENA common stock equal to the common stock exchange ratio. The common stock exchange ratio shall equal a fraction, the numerator of which is 24,080,843 shares minus the aggregate number of shares issued in payment of the foregoing liquidation preferences, and the denominator of which is the sum of the number of shares of Internet Photonics common stock outstanding plus the number of shares of Internet Photonics common stock issuable upon the exercise of all "Internet Photonics common stock equivalents" immediately prior to the effective time of the merger.

Under the terms of the merger agreement, "Internet Photonics common stock equivalents" means:

- the number of shares of Internet Photonics common stock issuable upon exercise of all Internet Photonics stock options outstanding at the effective time, excluding (i) those options which by their terms will expire on or prior to the effective time of the merger without becoming exercisable due to vesting provisions, (ii) options with an exercise price per share equal to or greater than \$1.00, (iii) unvested options held by Internet Photonics employees terminated at the closing of the merger, and (iv) unvested options, held by Internet Photonics employees identified by CIENA for termination during the six month period following the merger, that are projected to be unvested at the end of the transitional period during which CIENA expects to continue to employ such person, plus,
- the number of shares of Internet Photonics common stock that would be issuable upon conversion of all Internet Photonics preferred stock outstanding at the effective time of the merger (other than series A preferred stock), plus

- the number of shares of Internet Photonics common stock issuable upon the exercise of warrants to purchase Internet Photonics preferred stock outstanding at the effective time of the merger, and assuming the conversion of such shares into Internet Photonics common stock.

As of March 1, 2004, 485,141 shares of Internet Photonics common stock were issued and outstanding. In addition, as of such date, each series of Internet Photonics preferred stock was convertible into such number of shares of Internet Photonics common stock as set forth below:

Series of Internet Photonics Preferred Stock	Number of Shares of Internet Photonics Common Stock Underlying each Share of Preferred Stock	Aggregate Number of Shares of Internet Photonics Common Stock Underlying such Series of Preferred Stock
Series A preferred stock	1.419533	1,111,967
Series B preferred stock	1.419533	1,703,438
Series C preferred stock	3.316541	7,944,557
Series D preferred stock	1.0	30,999,994
Series E preferred stock	1.0	8,250,000

As of March 1, 2004, warrants exercisable for Internet Photonics preferred stock, representing 680,412 shares of Internet Photonics common stock on an as-converted basis, and stock options (excluding the options described in (i) through (iv) of the first bullet point above) exercisable for 9,117,066 shares of Internet Photonics common stock were issued and outstanding. As of March 1, 2004, therefore, there were a total of 60,292,575 shares of Internet Photonics common stock and “Internet Photonics common stock equivalents” outstanding.

Based on the aggregate liquidation preference payable on Internet Photonics preferred stock described above, the common stock exchange ratio, as of that date, would be .1635 shares of CIENA common stock and a holder of 100 shares of Internet Photonics common stock would receive 16.35 shares of CIENA common stock in the merger. The following chart sets forth the dollar value of those 100 shares of CIENA common stock at a range of prices of CIENA common stock. The chart does not include cash received for fractional shares or cash paid in respect of dissenting shares.

Illustrative Market Price of CIENA Common Stock at Closing	Value of Shares of CIENA Common Stock Issued at Closing to the Holder of 100 Shares of Internet Photonics Common Stock
\$4.50	\$ 73.58
\$5.00	\$ 81.75
\$5.50	\$ 89.93
\$6.00	\$ 98.10
\$6.28*	\$102.68
\$6.50	\$106.28
\$7.00	\$114.45
\$7.50	\$122.63

* The closing price of CIENA common stock on February 18, 2004, the last trading day prior to the announcement of the merger.

Accordingly, after taking into account payment, in shares of CIENA common stock, in respect the liquidation preference applicable to each series of Internet Photonics preferred stock, the applicable exchange ratio per share of Internet Photonics capital stock as of such date is as set forth below:

Class of Internet Photonics Stock	Exchange Ratio
Common Stock	0.1635
Series A preferred stock*	1.6321
Series B preferred stock	1.8641
Series C preferred stock	2.1742
Series D preferred stock	0.3267
Series E preferred stock	0.4083

* The exchange ratio for the series A preferred stock is fixed, and therefore not subject to adjustment based on changes in Internet Photonics' fully-diluted outstanding capital stock.

The actual common stock exchange ratio will be calculated at the effective time of the merger and is subject to change as a result of changes in the number of shares of Internet Photonics common stock, preferred stock or Internet Photonics common stock equivalents outstanding and other adjustments. The actual common stock exchange ratio is subject to adjustment due to option issuances, exercise of preferred stock warrants, stock repurchases and similar events or because of the exercise of outstanding Internet Photonics stock options with an exercise price equal to or greater than \$1.00 per share. Any issuance of Internet Photonics capital stock due to the exercise of outstanding options with exercise prices less than \$1.00 per share will not affect the exchange ratios. Moreover, the value you will receive in exchange for your Internet Photonics capital stock is subject to the trading price per share of CIENA common stock at the effective time.

If, prior to the effective time of the merger, the outstanding shares of CIENA common stock are changed into or exchanged for a different number of shares or a different class as a result of any stock split, combination, reclassification or dividend, the nature of the consideration to be received by the holders of Internet Photonics capital stock and the exchange ratios will be appropriately and proportionately adjusted.

CIENA will assume each option or warrant to acquire Internet Photonics common stock and preferred stock granted under Internet Photonics' stock plans or otherwise issued by Internet Photonics that is outstanding and unexercised immediately prior to the effective time of the merger. At the effective time of the merger, CIENA will replace each Internet Photonics option or warrant with an option or warrant, as the case may be, to purchase CIENA common stock. In each case, the number of shares of CIENA common stock subject to the new CIENA option or warrant will be equal to the number of shares of Internet Photonics common stock or preferred stock subject to the Internet Photonics stock option or warrant, multiplied by the common stock exchange ratio (and rounding any fractional share down to the nearest whole share) and the exercise price per share of CIENA common stock will be equal to the exercise price per share of Internet Photonics common stock subject to the Internet Photonics stock option or warrant divided by the exchange ratio. The duration and other terms of each such CIENA option or warrant, including the vesting schedule, will be the same as the prior Internet Photonics stock option or warrant, unless the vesting is accelerated by the terms of the instrument as a result of the merger. See "The Merger — Interests of Executive Officers and Directors in the Merger" for a discussion of the treatment of the acceleration of vesting schedules of certain executive officers pursuant to the merger.

Exchange of Certificates; Fractional Shares

CIENA has agreed to deposit with a bank or trust company designated as exchange agent by CIENA for the benefit of the holders of issued and outstanding shares of Internet Photonics common stock,

certificates representing the shares of CIENA common stock to be issued pursuant to the merger agreement.

At the earliest practicable date after the effective time of the merger, the exchange agent will mail a letter of transmittal to each holder of record of Internet Photonics common stock. The letter of transmittal will contain instructions with respect to the surrender of stock certificates to the exchange agent.

You should not forward your stock certificates to the exchange agent unless and until you receive the letter of transmittal, at which time you should forward them only in accordance with the instructions specified in the letter of transmittal.

Until the holders of certificates representing Internet Photonics capital stock to be converted into CIENA common stock in the merger surrender them for exchange at or after the effective time of the merger, they will accrue but will not receive dividends or other distributions declared after the effective time of the merger with respect to CIENA common stock into which their Internet Photonics stock has been converted. When they surrender such certificates, any unpaid dividends or other distributions will be paid, without interest. All stock certificates presented after the effective time of the merger will be canceled and exchanged for a certificate representing the applicable number of shares of CIENA common stock.

Any shares of CIENA common stock and cash that the exchange agent has not distributed six months after the effective time of the merger will be delivered to CIENA upon demand. Certificates representing Internet Photonics capital stock must thereafter be surrendered for exchange to CIENA. Neither CIENA, Internet Photonics, nor the exchange agent will be liable for any shares of CIENA common stock, dividends or distributions with respect thereto, or cash delivered to a public official pursuant to any abandoned property, escheat or similar laws.

If a certificate representing Internet Photonics capital stock is lost, stolen or destroyed, the exchange agent will issue the CIENA common stock in exchange for the certificate only upon the making of an affidavit of such loss, theft or destruction by the claimant and payment of any surety premium as required by the exchange agent with respect to such certificate.

CIENA will not issue any fractional shares of its common stock in the merger. Instead, each Internet Photonics stockholder who would otherwise have been entitled to receive a fractional share of CIENA common stock will receive cash, without interest, in an amount rounded to the nearest whole cent, determined by multiplying (1) the per share closing price of CIENA's common stock on the Nasdaq National Market on the date of the merger by (2) the fraction of a share of CIENA common stock to which the holder would otherwise be entitled.

For a description of the differences between the rights of the holders of CIENA common stock and holders of Internet Photonics capital stock, see "Comparison of Stockholder Rights."

Effective Time

The merger will occur after specified conditions set forth in Article V of the merger agreement have been satisfied or waived. No later than the second business day after the satisfaction or waiver of these conditions, the parties will hold a scheduled closing. On the day the merger occurs, CIENA will file a certificate of merger with the Secretary of State of the State of Delaware. The effective time of the merger will be the date and time of such filing. CIENA and Internet Photonics each anticipate that the merger will be completed during CIENA's third fiscal quarter of 2004. However, a delay in obtaining governmental consents required prior to consummation of the transactions contemplated in the merger agreement could delay the merger. There can be no assurances as to if or when such governmental consents will be obtained or that the merger will be completed.

Representations and Warranties

The merger agreement contains various representations of CIENA and Internet Photonics. Internet Photonics has made customary representations and warranties relating to, among other things:

- the corporate organization and existence of Internet Photonics, including that it is duly organized, validly existing and in good standing with the corporate power and authority to own, operate and lease its properties and to carry on its business as currently conducted;
- the certificate of incorporation and bylaws or other organizational documents of Internet Photonics;
- the capitalization of Internet Photonics, including the number of shares of capital stock authorized, the number of shares and rights to acquire shares outstanding and the number of shares reserved for issuance;
- the corporate power and authority of Internet Photonics to execute and deliver the merger agreement and related documents and to consummate the transactions contemplated by these documents;
- the compliance of the merger agreement and related documents with (1) Internet Photonics' certificate of incorporation and bylaws, (2) applicable laws, and (3) material agreements of Internet Photonics, including the absence of events of default thereunder;
- the required governmental and third-party consents;
- Internet Photonics' financial statements through December 31, 2003, including that the information in the financial statements, are a fair presentation of the financial condition and results of operations of Internet Photonics and is in compliance with GAAP;
- the absence of certain changes in Internet Photonics' business since December 31, 2003;
- the ownership and condition of the assets owned by Internet Photonics;
- material leases, contracts and agreements;
- interests in real property;
- compliance with environmental laws and the absence of environmental liabilities;
- the absence of material legal proceedings, injunctions and disputes;
- compliance with applicable laws, including relating to employees or the workplace;
- the absence of intellectual property infringement or contests;
- the filing and accuracy of Internet Photonics' tax returns;
- employee benefit plans and related matters, including that the plans have been operated and administered in accordance with applicable laws;
- related party transactions;
- insurance;
- the absence of undisclosed fees being paid to brokers;
- complete and correct books and records;
- the absence of certain business practices of Internet Photonics;
- knowledge regarding customer and supplier relationships; and
- the truthfulness of information provided by Internet Photonics and its principal officers for inclusion in the information statement/prospectus.

Messrs. Greg Koss and Waszak have also made the representations and warranties made by Internet Photonics above, but are making these representations and warranties on the basis only of their actual knowledge as to the matters stated therein.

Internet Photonics' representations and warranties generally survive until the end of the first year after the effective time of the merger. After the effective time of the merger, the maximum liability of Internet Photonics stockholders for any breach of the representations, covenants or agreements generally will be limited to 10% of the shares issued in the merger transaction, except for liability for fraud. CIENA and certain other indemnified persons may make a claim for indemnification for any breach of any of the foregoing representations and warranties until the end of the first year after the effective time of the merger. For a description of indemnification obligations of Internet Photonics stockholders see "— Indemnification and Escrow Arrangement."

The merger agreement also contains customary representations and warranties of CIENA as to, among other things:

- the corporate organization and existence of CIENA;
- the certificate of incorporation and bylaws or other organizational documents of CIENA;
- the corporate power and authority of CIENA;
- the compliance of the merger agreement and related documents with CIENA's certificate of incorporation and bylaws, applicable laws, and certain material agreements of CIENA;
- the required governmental and third-party consents;
- absence of undisclosed fees being paid to brokers;
- the valid issuance of the shares of CIENA common stock to be issued in the merger;
- CIENA's filings with the SEC;
- the absence of material legal proceedings, injunctions and disputes;
- the capitalization of CIENA; and
- the absence of undisclosed material adverse change or other specified changes in CIENA's business since October 31, 2003.

CIENA's representations and warranties will survive until the end of the first year after the effective date of the merger. CIENA has agreed to indemnify the former Internet Photonics stockholders for up to \$147.5 million against losses due to the breach or inaccuracy of CIENA's representations and warranties contained in the merger agreement.

Business of Internet Photonics Pending the Merger; Other Agreements

Pursuant to the merger agreement, Internet Photonics has agreed to:

- maintain its existence in good standing;
- conduct its business in the ordinary and usual manner consistent with past practices;
- maintain business and accounting records consistent with past practices; and
- use commercially reasonable efforts (1) to preserve its business intact, (2) to keep available to it the services of its present officers and employees, and (3) to preserve for it the goodwill of its suppliers, customers and others having business relations with it.

Interim Operations of Internet Photonics Prior to Closing:

Unless CIENA otherwise approves (unless such approval would violate legal requirements) or if necessary in order to comply with law, Internet Photonics may not:

- amend or otherwise change its certificate of incorporation or its bylaws (other than the amendment described in this information statement/prospectus);
- issue any stock or grant any options, with certain exceptions, in the ordinary course, consistent with past practice, including under its existing equity compensation programs;
- declare, set aside, make or pay any dividend or other distribution, payable in cash, stock, property or otherwise with respect to any of its capital stock;
- reclassify, combine, split, subdivide or redeem, purchase or otherwise acquire, directly or indirectly, any of its capital stock, except for repurchases of shares in connection with the termination of any employee or consultant pursuant to stock option, restricted stock purchase agreements or stock award agreements;
- incur any indebtedness for borrowed money or issue any debt securities (except in connection with the bridge loan described in this information statement/prospectus) or assume, guarantee or endorse, or otherwise become responsible for, the obligations of any person, or make any loans or advances, except in the ordinary course of business, consistent with past practice;
- acquire, including, without limitation, by merger, consolidation, or acquisition of stock or assets, any corporation, partnership, other business organization or any division thereof or any material amount of assets;
- enter into any contract or agreement other than in the ordinary course of business, consistent with past practice, or pursuant to the retention plan;
- authorize any capital commitment or capital lease that is in excess of \$100,000 or capital expenditures that are, in the aggregate, in excess of \$500,000, other than pursuant to the retention plan;
- mortgage, pledge or subject to encumbrance, except certain permitted encumbrances, any of its material assets or properties, or agree to do so, other than in the ordinary course of business, consistent with past practice;
- assume, guarantee or otherwise become responsible for the obligations of any other person or agree to so do;
- enter into or agree to enter into any employment agreement, other than pursuant to the retention plan, or offer letters for non-executive new hires entered into in the ordinary course of business, consistent with past practice;
- except as set forth in agreements disclosed to CIENA, increase the compensation of its officers or employees, other than pursuant to the retention plan, or grant any severance or termination pay to, or enter into any severance agreement with any director, officer or other employee of Internet Photonics, or establish, adopt, enter into or amend any collective bargaining, bonus, profit sharing, thrift, compensation, stock option, restricted stock, pension, retirement, deferred compensation, employment, termination, severance or other plan, agreement, trust, fund, policy or arrangement for the benefit of any such director, officer or employee, other than pursuant to the retention plan, except for amendments to existing employee benefit plans as necessary to maintain compliance with applicable laws and in certain other limited circumstances;
- take any action to change in any respect its accounting policies or procedures, including, without limitation, procedures with respect to the payment of accounts payable and collection of accounts receivables, except as required by concurrent changes in GAAP and the application of SEC rules and regulations and related interpretations;

- make any tax election or settle or compromise any federal, state, local or foreign material income tax liability in excess of \$50,000;
- settle or compromise any pending or threatened suit, action or claim or initiate any litigation against a third party;
- pay, discharge or satisfy any claim, liability or obligation, other than the payment, discharge or satisfaction, (a) in the ordinary course of business and consistent with past practice, of liabilities reflected or reserved against in Internet Photonics' balance sheet dated December 31, 2003, or subsequently incurred in the ordinary course of business and consistent with past practice in amounts not in excess of \$100,000, (b) of a secured loan between Internet Photonics and Comerica Bank, or (c) of a \$1.5 million promissory note payable by Internet Photonics to AT&T Corp;
- sell, assign, transfer, license or sublicense, pledge or otherwise encumber any of its intellectual property rights, other than in the ordinary course of business and consistent with past practice; or
- announce an intention, commit or agree to do any of the foregoing.

Interim Operations of CIENA Prior to Closing:

Unless Internet Photonics otherwise approves (unless such approval would violate legal requirements) or if necessary in order to comply with law, CIENA may not declare, set aside, make or pay any dividend or other distribution, payable in cash, stock, property or otherwise with respect to any of its capital stock, or agree to do so, except where (1) an adjustment is made to the exchange ratios for Internet Photonics capital stock, or (2) the holders of Internet Photonics capital stock will otherwise receive an equivalent, proportional dividend or distribution in connection with the merger as if they had been holders of CIENA common stock on the record date for such dividend or distribution.

No Solicitation by Internet Photonics

Pursuant to the merger agreement, Internet Photonics may not, nor may it authorize or permit any of its affiliates or any officer, director, employee, investment banker, attorney or other adviser or representative of Internet Photonics or any of its affiliates to:

- solicit, initiate, or encourage any acquisition proposal (as defined to mean any proposal for a merger or other business combination involving Internet Photonics or any proposal or offer to acquire in any manner, directly or indirectly, 20% or more of the equity securities, voting securities, or assets of Internet Photonics);
- enter into any agreement with respect to any acquisition proposal; or
- participate in any discussions or negotiations regarding, or furnish to any person any information for the purpose of facilitating the making of, or take any other action to facilitate any inquiries or the making of any proposal that constitutes, or may reasonably be expected to lead to, any acquisition proposal.

Internet Photonics must promptly advise CIENA of any acquisition proposal and inquiries with respect to any acquisition proposal. Any action by a person purporting to act on behalf of Internet Photonics without actual authority in violation of the foregoing restrictions shall not be deemed a breach of those restrictions by Internet Photonics if Internet Photonics provides written notice to CIENA of such breach within one business day of the discovery of such action, disavows the action taken in writing to CIENA and to any third-party involved and promptly uses commercially reasonable available means to cause such person to refrain from taking any further action in violation of the foregoing restrictions.

Indemnification and Escrow Arrangement

Under the merger agreement, for a period of one year following the merger, CIENA and its officers, directors and affiliates are indemnified by the Internet Photonics stockholders, other than those dissenting

stockholders exercising rights of appraisal under Section 262 of the DGCL who do not receive CIENA common stock in the merger, against all claims, losses, and liabilities, incurred as a result of:

- any inaccuracy or breach of a representation or warranty of Internet Photonics or its chief executive officer or chief financial officer contained in the merger agreement or a certificate of any officer of Internet Photonics delivered pursuant to the merger agreement;
- any failure by Internet Photonics to perform or comply with any covenant or agreement contained in the merger agreement;
- certain incremental costs incurred in responding to any exercise of dissenters' rights by any holder of Internet Photonics' capital stock; and
- fees and expenses incurred by or on behalf of Internet Photonics in connection with the merger in excess of \$3 million.

With the exception of claims, losses and liabilities incurred by CIENA as a result of fraud, or inaccuracies or breaches of Internet Photonics' representation and warranty regarding its record holders of capital stock, or Internet Photonics' representations and warranties regarding certain tax matters, CIENA is only entitled to indemnification for claims made within the one-year period following the closing of the merger. In the case of indemnification claims made after the one-year period relating to the limited representations and warranties described in this paragraph, each Internet Photonics stockholder's liability (including through claims against the escrow fund) is limited to the product of the number of shares such stockholder was entitled to receive in the merger and \$6.127.

Except as described in the previous paragraph, the aggregate amount available to indemnify the indemnified parties may not exceed the amount deposited in the escrow fund, referred to below, and no stockholder is required to indemnify the indemnified parties for an amount that would exceed such stockholder's pro rata share of the CIENA stock deposited in the escrow fund. In addition, there will be no indemnification liability, except for the indemnification for fees and expenses that exceed \$3 million, unless the aggregate amount of losses incurred exceeds \$500,000, in which event the entire amount of losses will be indemnifiable. The stockholders will have no right of contribution from Internet Photonics with respect to any loss claimed by CIENA after the closing date. Nothing in the merger agreement limits the liability of Internet Photonics for any breach of any representation, warranty or covenant if the merger is not completed.

Escrow Fund

The merger agreement provides that 10% of the shares of CIENA common stock to be issued to the Internet Photonics stockholders in the merger will be placed in escrow with an escrow agent as soon as practicable after the merger is completed. Additionally, 40,803 shares of CIENA common stock that are allocable to Internet Photonics stockholders in the merger will be deposited with the escrow agent to pay any expenses of Sprout Capital IX, L.P., appointed as the stockholders' representative under the terms of the merger agreement. The escrow fund will be the sole and exclusive source available to compensate CIENA for the indemnification obligations of each Internet Photonics stockholder under the merger agreement, except as described above. The deposit with the escrow agent constitutes an escrow fund to be governed by the terms set forth in the escrow agreement. The portion of the escrow amount contributed on behalf of each stockholder must be proportional to the aggregate CIENA common stock to which such holder would otherwise be entitled. The form of escrow agreement to be executed at closing is attached to this information statement/prospectus as Annex D.

Stockholders' Representative

Under the terms of the merger agreement, Sprout Capital IX, L.P. has been appointed as agent and attorney-in-fact to act on behalf of Internet Photonics stockholders and to take all such actions as may be necessary or appropriate to carry out the merger agreement and the escrow agreement. Any actions taken by the stockholders' representative shall be binding upon all stockholders, except in cases of bad faith, and

no stockholder shall have the right to object, dissent, protest or otherwise contest such determinations or actions. The stockholders' representative shall have no liability to any stockholder or any other person, for any actions taken, decisions made or instructions given in the performance of its duties, except in the case of its own gross negligence or willful misconduct.

Internet Photonics stockholders will, on a pro rata basis, contribute 40,803 shares of CIENA common stock to the escrow fund for purposes of reimbursing the out-of-pocket fees and expenses incurred by the stockholders' representative in the performance of its duties. To the extent such costs exceed the reimbursement fund, and any amounts remaining in the escrow fund, Internet Photonics stockholders shall pay their respective pro rata share of such amounts incurred by the stockholders' representative in the performance of its duties.

Internet Photonics stockholders who in the aggregate hold not less than a 61% interest in the escrow fund will have the right at any time during the term of the escrow agreement to remove the then-acting stockholders' representative and appoint a successor.

Directors' and Officers' Indemnification

CIENA has agreed to fulfill and honor in all respects any indemnification agreements Internet Photonics has previously entered into with its officers and directors and to fulfill and honor any indemnification provisions of Internet Photonics' certificate of incorporation and bylaws. The merger agreement provides that all rights to indemnification for present and former officers and directors of Internet Photonics will survive the merger and continue in full force and effect for a period of not less than six years from the date of the completion of the merger in the case of certain omissions.

Conditions Precedent to Each Party's Obligation to Effect the Merger

The following conditions must be satisfied before the merger can become effective:

- CIENA and Internet Photonics have obtained all authorizations, consents, orders, declarations or approvals of, or filings with, any governmental authority required in connection with the merger, which the failure to obtain, make or occur would have the effect of making the merger or any of the transactions contemplated by it illegal or would have a material adverse effect on CIENA or a material adverse effect on Internet Photonics;
- no court or governmental entity enacts, issues, promulgates, enforces or enters (or institutes a proceeding to do so) any law, statute, ordinance, rule, regulation, judgment, decree, injunction or other order which is in effect and which restrains, enjoins or otherwise prohibits consummation of the merger; and
- the registration statement on Form S-4 of which this information statement/prospectus forms a part must have become effective under the Securities Act, and there must be no stop order or threat of proceedings by the SEC to suspend the effectiveness of the registration statement.

Conditions Precedent to CIENA's Obligations to Effect the Merger

CIENA's obligations to effect the merger are subject to the fulfillment or satisfaction, prior to or on the closing date, of each of the following conditions:

- Internet Photonics must have performed and complied in all material respects with all agreements and covenants to be performed prior to or on the closing date;
- each of Internet Photonics' representations and warranties contained in the merger agreement must be true and correct as of the closing, except to the extent (i) that such representations and warranties expressly relate to an earlier date (in which case such representations and warranties must be true as of such earlier date); and (ii) such failure to be true and correct would not have a material adverse effect on Internet Photonics;

- Internet Photonics must have received certain specified consents or waivers, in form and substance satisfactory to CIENA, from the other parties to certain contracts, leases or agreements to which Internet Photonics is a party;
- the escrow agreement must have been executed and delivered by the stockholders' representative;
- CIENA must have received favorable written legal opinions dated as of the closing date from its counsel as to federal income tax matters and from Internet Photonics' counsel as to certain customary matters;
- CIENA must have received executed letter agreements from each director and executive officer of Internet Photonics relating to certain restrictions on the transfer of the shares of CIENA common stock received by such persons in the merger; and
- the secured loan between Internet Photonics and Comerica Bank shall have been repaid in full by Internet Photonics.

Conditions Precedent to Internet Photonics' Obligations to Effect the Merger

Internet Photonics' obligations to effect the merger are subject to the satisfaction of the following conditions prior to the closing date:

- CIENA must have performed and complied in all material respects with all agreements and conditions to be performed prior to or on the closing date;
- each of CIENA's representations and warranties contained in the merger agreement must be true and correct, except to the extent (i) that such representations and warranties expressly relate to an earlier date (in which case such representations and warranties must be true as of such earlier date); and (ii) such failure to be true and correct would not have a material adverse effect on CIENA;
- Internet Photonics must have received favorable written legal opinions dated as of the closing date from its counsel as to federal income tax matters and from CIENA's counsel as to certain customary matters;
- if required, CIENA shall have filed a timely notification of listing of additional shares with the Nasdaq National Market; and
- the escrow agreement must have been executed and delivered by CIENA.

Termination of the Merger Agreement; Termination Fee

The merger agreement may be terminated, and the merger may be abandoned at any time prior to the closing date:

- by the mutual written agreement of CIENA and Internet Photonics;
- by CIENA or Internet Photonics if:
 - the closing has not occurred by July 31, 2004, except that the right to terminate the merger agreement is not available to any party who has caused the delay in the closing date by failing to fulfill its obligations under the merger agreement; or
 - any court or other governmental authority of competent jurisdiction issues an order or takes any other final and non-appealable action restraining, enjoining or otherwise prohibiting the merger; or
- by CIENA if:
 - Internet Photonics' board of directors has withdrawn, modified or amended in any respect adverse to CIENA its recommendation in favor of the merger agreement or merger or failed to

reconfirm its recommendation within three business days of a written request of CIENA to do so;

- Internet Photonics has recommended or entered into an agreement with respect to, or consummated, any acquisition proposal from a person other than CIENA or any of its affiliates; or
- CIENA is not in material breach of its obligations under the merger agreement and Internet Photonics breaches any material representation, warranty, covenant or agreement in the merger agreement, and fails to cure the breach ten days after receiving notice of it or such breach cannot be cured and would cause a condition to CIENA's obligation to complete the merger to be incapable of being satisfied.

If the merger agreement is terminated by CIENA because Internet Photonics' board of directors withdraws, amends or modifies its recommendation in favor of the merger, or because Internet Photonics has recommended or entered into an agreement with respect to, or consummated, any acquisition proposal from a person other than CIENA or its affiliates, then Internet Photonics must pay CIENA a termination fee of \$6 million, as well as reimbursement of up to \$500,000 for expenses incurred in the merger negotiation.

Waiver and Amendment of the Merger Agreement

At any time prior to the effective time of the merger, CIENA and Internet Photonics may agree in writing to:

- extend the time for the performance of any obligation or other act required to be performed under the merger agreement;
- waive any inaccuracies in the representations and warranties contained in the merger agreement or in any document delivered pursuant to the merger agreement;
- waive compliance with any of the agreements or conditions contained in the merger agreement; or
- amend the merger agreement.

After the closing, the merger agreement may be amended or modified by CIENA and the stockholders' representative.

Expenses

CIENA and Internet Photonics will pay their own expenses incidental to the preparation of the merger agreement, the carrying out of the provisions of the merger agreement and the consummation of the transactions contemplated by the merger agreement.

Following the merger, CIENA will not be liable for Internet Photonics' out-of-pocket expenses paid or payable in connection with the merger (including fees and costs payable to bankers, accountants and lawyers, as well as payments required in connection with obtaining consents, and the cost of employee entitlements as a result of a change in control or non-standard severance provisions (with certain exclusions), tax gross-ups or otherwise) in excess of \$3 million. Any expenses in excess thereof are recoverable by CIENA from the escrow fund without reference to the \$500,000 minimum aggregate amount of losses that CIENA must otherwise incur prior to recovery. For additional information on CIENA's rights to indemnification, see "—Indemnification and Escrow Arrangement" above.

Bridge Loan

In conjunction with entering into the merger agreement, CIENA has agreed to provide Internet Photonics with a bridge loan pursuant to a credit and security agreement under which CIENA has agreed to provide a revolving line of credit to Internet Photonics to fund Internet Photonics' operations through the closing of the merger. A copy of the credit and security agreement is included as an exhibit to the registration statement of which this information statement/prospectus forms a part.

Under the line of credit, CIENA agrees to advance cash to Internet Photonics from time to time in minimum draw amounts of not less than \$1 million to finance its operations until the earlier of (i) the termination of the merger agreement, or (ii) the closing of the merger. The total principal amount of advances outstanding under the line of credit at any one time may not exceed \$15,057,000 and borrowing under the line of credit is further limited by certain monthly ceilings. Notwithstanding the application of any monthly ceiling, but subject to the aggregate limit on borrowing, Internet Photonics may borrow up to \$1.5 million to repay its outstanding promissory note with AT&T Corp. when it becomes due and payable and may borrow up to \$2.5 million to make payments pursuant to the terms of Internet Photonics' retention plan, including related payroll and unemployment taxes. Internet Photonics may borrow, repay and re-borrow under the line of credit at any time during the borrowing term. All principal, accrued and unpaid interest and all other sums owing to CIENA under the line of credit are due and payable upon the earlier of:

- 90 days following the termination of the merger agreement by any party thereto for any reason;
- the date on which Internet Photonics consummates any financing with net proceeds to it equal to or greater than \$5 million; and
- October 29, 2004.

Interest on the principal amount outstanding under the line of credit is payable at a rate equal to 12% per annum. Internet Photonics may prepay any or all amounts outstanding under the line of credit at any time without penalty or premium. Upon the occurrence of any one or more of the following, each an "event of default", interest is payable at a rate equal to 14% per annum:

- any representation or information provided to CIENA by or on behalf of Internet Photonics in connection with the line of credit should prove to have been false or misleading when made or supplied in any respect deemed material to CIENA in good faith;
- the failure of Internet Photonics to pay any obligation under the line of credit when due and such failure to pay remains uncured for a period of three business days after notice from CIENA to Internet Photonics;
- the occurrence of a default or event of default by Internet Photonics with respect to, or acceleration or demand for payment prior to maturity of, any indebtedness of Internet Photonics to any person in excess of \$250,000, or with respect to any lien securing indebtedness of Internet Photonics which could reasonably have a material adverse effect on Internet Photonics or any rights of CIENA with respect to its collateral or any of Internet Photonics' obligations under the line of credit or on the prospect for full and punctual payment and performance of Internet Photonics' obligations under the line of credit;
- Internet Photonics' failure to observe or perform certain affirmative and negative covenants under the credit and security agreement that shall remain uncured for a period of 20 days after notice from CIENA to Internet Photonics;
- Internet Photonics admits in writing to insolvency or inability to pay its debts as they mature, makes a general assignment for the benefit of creditors, commences a case under or otherwise seeks to take advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation law, statute or proceeding, or by any act indicates its consent to, approval of or acquiescence in any such proceeding or the appointment of any receiver or trustee for itself, or a substantial part of its property, or suffers any such receivership, trusteeship or proceeding to continue undismissed for 30 days;
- Internet Photonics becomes a debtor in a federal bankruptcy case;
- Internet Photonics dissolves or there is an entry of any order, judgment, award or decree for the dissolution of Internet Photonics;

- a judgment, order, award or decree is entered against Internet Photonics which is uninsured and not stayed or satisfied within 30 days thereafter and which CIENA deems in good faith to be material or when aggregated with similar judgments, orders, awards or decrees could reasonably have a material adverse effect on Internet Photonics or any rights of CIENA with respect to its collateral or Internet Photonics' performance of its obligations under the line of credit;
- an injunction or restraint on Internet Photonics from conducting its business in whole or in part deemed material by CIENA in good faith;
- any collateral of Internet Photonics is attached, levied upon, seized or repossessed, or comes into the possession of a trustee, receiver or other custodian and such is not dismissed or resolved without loss of any collateral within 20 days;
- any adverse change with respect to the business, assets, operations, business prospects or financial condition of Internet Photonics that is deemed by CIENA in good faith to be reasonably likely to have a material adverse effect on Internet Photonics;
- Internet Photonics becomes insolvent or unable to pay its debts as they mature;
- Internet Photonics terminates or cancels, without CIENA's prior consent, any material lease or sublease, contract franchise, license, permit, authorization, certificate or right;
- Internet Photonics terminates any contract that CIENA in good faith deems material to Internet Photonics' business, assets, operations, business prospects, or financial condition; or
- any suspension or revocation of any material license, permit, certification, approval or the like required to be held by Internet Photonics by applicable law.

Upon the occurrence of an event of default, all obligations under the line of credit are automatically and immediately due and payable and CIENA may, without notice or demand, exercise in any jurisdiction, its rights and remedies under the credit and security agreement, the uniform commercial code and applicable law. As security for the payment and performance of Internet Photonics' obligations under the line of credit, Internet Photonics has granted CIENA a security interest in substantially all of Internet Photonics' property, other than real property. For so long as any amounts are owed by Internet Photonics to Comerica Bank or Comerica Bank has an obligation to make credit extensions to Internet Photonics, CIENA's security interest shall be subordinate to the security interest of Comerica Bank. Internet Photonics' repayment of all amounts outstanding under its loan and security agreement with Comerica Bank is a condition to CIENA's obligations to consummate the merger.

Restrictions on Resales by Affiliates

The shares of CIENA stock to be issued to Internet Photonics stockholders in the merger have been registered under the Securities Act by the registration statement on Form S-4 of which this prospectus forms a part. These shares may be traded freely and without restriction by those stockholders not deemed to be "affiliates" of Internet Photonics as that term is defined under the Securities Act. An affiliate of a corporation, as defined by the rules promulgated under the Securities Act, is a person who directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, that corporation. Under the merger agreement, Internet Photonics has agreed to obtain affiliate agreements from each affiliate of Internet Photonics before completion of the merger. Under these agreements, each affiliate will agree not to sell, transfer, pledge or otherwise dispose of any of the CIENA common stock received by them in the merger in violation of the Securities Act. Generally, this will require that all sales be made as provided by the resale provisions of Rule 145 promulgated under the Securities Act, which, in turn, requires that for a specified period, sales be made in compliance with the volume limitations, manner of sale provisions and current information requirements of Rule 144 under the Securities Act. CIENA has the right to place legends on the certificates evidencing CIENA common stock issued to affiliates of Internet Photonics summarizing the foregoing restrictions. If an Internet Photonics affiliate becomes an affiliate of CIENA, any transfer must be permitted by the resale provisions of Rule 144 promulgated under the Securities Act or otherwise permitted under the Securities Act.

INFORMATION ABOUT CIENA

General

CIENA is a leader in innovative networking solutions to service providers and enterprises worldwide. CIENA's customers include long-distance carriers, local exchange carriers, Internet service providers, wireless and wholesale carriers, systems integrators, large businesses and governmental and non-profit institutions. CIENA offers network solutions that enable service providers to provision, manage and deliver economic, high-bandwidth services to their customers.

Proposed Acquisition of Catena Networks, Inc.

On February 19, 2004, CIENA announced the execution of a definitive agreement to acquire Catena Networks, Inc., a leader in the broadband access market with offices in Ottawa, Canada and Research Triangle Park, NC. Under the terms of the acquisition agreement, Catena will merge into CIENA, and all the outstanding shares of Catena common and preferred stock will be exchanged for shares of CIENA common stock. CIENA also will assume Catena's employee stock options and warrants which will be converted into options and warrants to purchase CIENA shares. The total number of shares issuable in respect of Catena outstanding stock, options and warrants is approximately 75.9 million shares of CIENA common stock which, based on the closing price of CIENA's common stock on March 24, 2004, had an aggregate value of approximately \$360.5 million. CIENA expects the transaction to qualify as a tax-free reorganization. The Catena transaction is subject to various conditions and approval by appropriate government agencies and the stockholders of Catena. The boards of directors of both CIENA and Catena each have approved the transaction. It is expected that this transaction will close by the end of CIENA's third fiscal quarter 2004.

Additional Information

A detailed description of CIENA's business and various benefit plans, including stock option plans, financial statements and other matters related to CIENA is incorporated by reference in this information statement/prospectus or set forth in CIENA's Annual Report on Form 10-K for the year ended October 31, 2003 and Quarterly Report on Form 10-Q for the quarter ended January 31, 2004. Stockholders desiring copies of such documents may contact CIENA at its address or telephone number indicated under the caption "Where You Can Find More Information."

INFORMATION ABOUT INTERNET PHOTONICS

Internet Photonics designs, manufactures, and markets equipment and software used to send voice, video, and data traffic across optical networks. This equipment was developed specifically for operators whose existing networks are running out of capacity and who need a non-disruptive and reliable expansion of capacity, as well as the ability to offer new revenue-generating optical services to customers. Internet Photonics believes that its products simplify network deployment and the provisioning of communication services, and offer size, power consumption, cost and capacity advantages over many alternative products. All seven of Internet Photonics' products currently produce revenue and are in use with telecommunications and cable networks around the world.

Internet Photonics was incorporated in August 2000 in the state of Delaware and was a development stage company through 2002. Internet Photonics achieved its first revenues with multiple customers in 2002. Currently, Internet Photonics' operating activities consist primarily of research and development, sales and marketing, product design and manufacturing.

SECURITY OWNERSHIP OF DIRECTORS, EXECUTIVE OFFICERS AND MORE THAN

FIVE PERCENT STOCKHOLDERS OF INTERNET PHOTONICS

The following table sets forth certain information regarding the beneficial ownership of Internet Photonics capital stock as of March 1, 2004: (i) by each person who is known by Internet Photonics to own beneficially more than 5% of each of the classes of Internet Photonics capital stock, on an as-converted basis; (ii) by each director of Internet Photonics; (iii) by the chief executive officer and the four most highly compensated executive officers, other than the chief executive officer, of Internet Photonics; and (iv) by all of the directors and all of the executive officers of Internet Photonics as a group. Except as noted below, the address of each person listed on the table is c/o Internet Photonics, Inc., 1030 Broad Street, Suite 200, Shrewsbury, New Jersey 07702.

As of March 1, 2004, 485,141 shares of Internet Photonics common stock were issued and outstanding. As of the same date, 783,333 shares of series A preferred stock, 1,199,999 shares of series B preferred stock, 2,395,435 shares of series C preferred stock, 30,999,994 shares of series D preferred stock and 8,250,000 shares of series E preferred stock of Internet Photonics were issued and outstanding.

Each share of Internet Photonics common stock is entitled to one vote. Each share of Internet Photonics preferred stock is entitled to a number of votes equal to the number of shares of Internet Photonics common stock into which such share may be converted into pursuant to Internet Photonics' certificate of incorporation. Each share of series A preferred stock and series B preferred stock converts into 1.419533 shares of common stock. Each share of series C preferred stock converts into 3.316541 shares of common stock. Each share of series D preferred stock and series E preferred stock converts into one share of common stock. No other classes of capital stock are authorized under the Internet Photonics certificate of incorporation.

The following table is based on 1,111,967 shares of series A preferred stock, 1,703,438 shares of series B preferred stock, 7,944,557 shares of series C preferred stock, 30,999,994 shares of series D preferred stock and 8,250,000 shares of series E preferred stock outstanding, calculated on an as-converted to common stock basis as of March 1, 2004. Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission and includes voting or investment power with respect to the shares of Internet Photonics capital stock and capital stock issuable upon conversion or exercise of other currently convertible or exercisable Internet Photonics securities or that will be so convertible or exercisable within 60 days of March 1, 2004.

Name of Beneficial Owner(1)(2)(3)	Common and Preferred Stock Outstanding on an As-Converted Basis		Series A Preferred Stock Outstanding on an As-Converted Basis		Series B Preferred Stock Outstanding on an As-Converted Basis		Series C Preferred Stock Outstanding on an As-Converted Basis	
	Amount and Nature of Beneficial Ownership	Percent of Class	Amount and Nature of Beneficial Ownership	Percent of Class	Amount and Nature of Beneficial Ownership	Percent of Class	Amount and Nature of Beneficial Ownership	Percent of Class
DLJ Capital Corp.(4)	31,215,785	61.3%			1,608,329	94.4%	7,759,498	94.9%
DLJ ESC II, L.P.(5)	31,215,785	61.3%			1,608,329	94.4%	7,759,498	94.9%
Sprout Entrepreneurs' Fund, L.P.(6)	31,215,785	61.3%			1,608,329	94.4%	7,759,498	94.9%
Sprout Capital IX, L.P. (7)	31,215,785	61.3%			1,608,329	94.4%	7,759,498	94.9%
Sprout Plan Investors, L.P.(8)	31,215,785	61.3%			1,608,329	94.4%	7,759,498	94.9%
Nemeth, Wayne(9)	31,215,785	61.3%			1,608,329	94.4%	7,759,498	94.9%
Diamond, Stephen Eleven Madison Avenue New York, NY 10010	0	0%						
ComVentures V, L.P.(10)	12,673,568	25.1%						
ComVentures V-A CEO Fund, L.P.(11)	12,673,568	25.1%						
ComVentures V-B CEO Fund, L.P.(12)	12,673,568	25.1%						
ComVentures V Entrepreneurs' Fund, L.P.(13)	12,673,568	25.1%						
Higgerson, Clifford(14) 305 Lytton Avenue Palo Alto, CA 94301	12,673,568	25.1%						
NV Partners II LP 98 Floral Avenue Murray Hill, NJ 07974	3,751,238	7.4%	757,084	68.1%			396,396	5.0%
Koss, Gregory(15)	1,694,296	3.1%						
Liebhaber, Richard(16)	142,500	0.3%						
Nuss, Martin(17)	433,386	0.8%						
Panditi, Surya(18)	154,079	0.3%					16,579	0.2%
Corkum, Todd(19)	25,164	0.0%						
Dale, Peter(20)	42,500	0.1%						
Aucoin, Todd(21)	15,183	0.0%						
Waszak, Steven(22)	584,209	1.1%						
Directors and executive officers as a group (11 persons)	46,980,670	87.2%	0	0%	1,608,329	94.4%	7,776,073	95.1%

[Additional columns below]

[Continued from above table, first column(s) repeated]

Name of Beneficial Owner(1)(2)(3)	Series D Preferred Stock Outstanding on an As-Converted Basis		Series E Preferred Stock Outstanding on an As-Converted Basis	
	Amount and Nature of Beneficial Ownership	Percent of Class	Amount and Nature of Beneficial Ownership	Percent of Class
DLJ Capital Corp.(4)	16,076,297	51.5%	5,771,661	70.0%
DLJ ESC II, L.P.(5)	16,076,297	51.5%	5,771,661	70.0%
Sprout Entrepreneurs' Fund, L.P.(6)	16,076,297	51.5%	5,771,661	70.0%
Sprout Capital IX, L.P. (7)	16,076,297	51.5%	5,771,661	70.0%
Sprout Plan Investors, L.P.(8)	16,076,297	51.5%	5,771,661	70.0%
Nemeth, Wayne(9)	16,076,297	51.5%	5,771,661	70.0%
Diamond, Stephen Eleven Madison				

Avenue New York, NY 10010				
ComVentures V, L.P. (10)	10,199,999	32.9%	2,473,569	30.0%
ComVentures V-A CEO Fund, L.P.(11)	10,199,999	32.9%	2,473,569	30.0%
ComVentures V-B CEO Fund, L.P.(12)	10,199,999	32.9%	2,473,569	30.0%
ComVentures V Entrepreneurs' Fund, L.P.(13)	10,199,999	32.9%	2,473,569	30.0%
Higgerson, Clifford(14) 305 Lytton Avenue Palo Alto, CA 94301	10,199,999	32.9%	2,473,569	30.0%
NV Partners II LP 98 Floral Avenue Murray Hill, NJ 07974	2,597,758	8.3%		
Koss, Gregory(15)				
Liebhaber, Richard(16)				
Nuss, Martin(17)				
Panditi, Surya(18)				
Corkum, Todd(19)				
Dale, Peter(20)				
Aucoin, Todd(21)				
Waszak, Steven(22)				
Directors and executive officers as a group (11 persons)	26,276,296	84.2%	8,245,230	99.9%

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- (1) The persons identified in the table above possess sole voting and investment power with respect to all shares shown as beneficially owned by them, except as noted in the footnotes below and subject to applicable community property laws.
 - (2) The inclusion herein of any shares of Internet Photonics capital stock deemed beneficially owned does not constitute an admission of beneficial ownership of those shares.
 - (3) All Internet Photonics stockholders are party to either a stockholders agreement or a stock restriction agreement since the time of their acquisition of Internet Photonics capital stock that requires that they vote all of the voting securities of Internet Photonics capital stock that they own or control to cause and maintain the election of the persons specified in the stockholders agreement to the Internet Photonics board of directors. All of the current members of the Internet Photonics board of directors have been elected pursuant to this voting arrangement. Under applicable federal securities laws, this voting arrangement may mean that all Internet Photonics stockholders are deemed to be the beneficial owner of all of the shares of Internet Photonics capital stock now outstanding.
 - (4) Includes 1,587,645 shares of series B preferred stock, 7,671,898 shares of series C preferred stock, 15,894,809 shares of series D preferred stock and 5,706,504 shares of series E preferred stock, on an as-converted basis, held by its affiliates Sprout Capital IX, L.P., Sprout Entrepreneurs' Fund, L.P., Sprout Plan Investors, L.P., and DLJ ESC II, L.P. Includes 2,570 shares of series C preferred stock and 2,256 shares of series D preferred stock, on an as-converted basis, issuable upon the exercise of certain warrants held by DLJ Capital Corporation.
 - (5) Includes 1,509,837 shares of series B preferred stock, 7,342,354 shares of series C preferred stock, 15,212,053 shares of series D preferred stock and 5,771,661 shares of series E preferred stock, on an as-converted basis, held by its affiliates Sprout Capital IX, L.P., Sprout Entrepreneurs' Fund, L.P., Sprout Plan Investors, L.P., and DLJ Capital Corporation. Includes 12,251 shares of series C preferred stock and 10,750 shares of series D preferred stock, on an as-converted basis, issuable upon the exercise of certain warrants held by DLJ ESC II, L.P.
 - (6) Includes 1,596,510 shares of series B preferred stock, 7,731,022 shares of series C preferred stock, 16,017,295 shares of series D preferred stock and 5,750,479 shares of series E preferred stock, on an as-converted basis, held by its affiliates Sprout Capital IX, L.P., Sprout Plan Investors, L.P., DLJ Capital Corporation and DLJ ESC II, L.P. Includes 832 shares of series C preferred stock and 734 shares of series D preferred stock, on an as-converted basis, issuable upon the exercise of certain warrants held by Sprout Entrepreneurs' Fund, L.P.
 - (7) Includes 130,989 shares of series B preferred stock, 533,208 shares of series C preferred stock, 1,104,734 shares of series D preferred stock and 396,619 shares of series E preferred stock, on an as-converted basis, held by its affiliates DLJ Capital Corporation, Sprout Entrepreneurs' Fund, L.P., Sprout Plan Investors, L.P., and DLJ ESC II, L.P. Includes 212,262 shares of series C preferred stock and 186,256 shares of series D preferred stock, on an as-converted basis, issuable upon the exercise of certain warrants held by Sprout Capital IX, L.P.
 - (8) Includes 1,608,329 shares of series B preferred stock, 7,759,498 shares of series C preferred stock, 16,076,297 shares of series D preferred stock and 5,461,381 shares of series E preferred stock, on an as-converted basis, held by its affiliates Sprout Capital IX, L.P., Sprout Entrepreneurs' Fund, L.P., DLJ Capital Corporation, and DLJ ESC II, L.P.
 - (9) Includes 1,608,329 shares of series B preferred stock, 7,759,498 shares of series C preferred stock, 16,076,297 shares of series D preferred stock and 5,771,661 shares of series E preferred stock, on an as-converted basis, held by affiliates Sprout Capital IX, L.P., Sprout Entrepreneurs' Fund, L.P., Sprout Plan Investors, L.P., DLJ Capital Corporation, and DLJ ESC II, L.P. Mr. Nemeth is a Director of DLJ Capital Corporation, which in turn is the General Partner and Managing General Partner, respectively, of Sprout Entrepreneurs' Fund, L.P. and Sprout Capital IX, L.P.; Mr. Nemeth is also attorney in fact of the entities that control Sprout Plan Investors, L.P. and DLJ ESC II, L.P.

- (10) Includes 1,171,561 shares of series D preferred stock and 284,112 shares of series E preferred stock, on an as-converted basis, held by affiliates ComVentures V-A CEO Fund, L.P., ComVentures V-B CEO Fund, L.P., and ComVentures V Entrepreneurs' Fund, L.P.
- (11) Includes 9,625,129 shares of series D preferred stock and 2,334,160 shares of series E preferred stock, on an as-converted basis, held by affiliates ComVentures V, L.P., ComVentures V-B CEO Fund, L.P., and ComVentures V Entrepreneurs' Fund, L.P.
- (12) Includes 9,640,242 shares of series D preferred stock and 2,337,822 shares of series E preferred stock, on an as-converted basis, held by affiliates ComVentures V, L.P., ComVentures V-A CEO Fund, L.P., and ComVentures V Entrepreneurs' Fund, L.P.
- (13) Includes 10,163,065 shares of series D preferred stock and 2,464,613 shares of series E preferred stock, on an as-converted basis, held by affiliates ComVentures V, L.P., ComVentures V-A CEO Fund, L.P., and ComVentures V-B CEO Fund, L.P.
- (14) Includes 10,199,999 shares of series D preferred stock and 2,473,569 shares of series E preferred stock, on an as-converted basis, held by affiliates ComVentures V, L.P., ComVentures V-A CEO Fund, L.P., ComVentures V-B CEO Fund, L.P., and ComVentures V Entrepreneurs' Fund, L.P.
Mr. Higgerson is a Member of the entity that is the General Partner of each of ComVentures V, L.P., ComVentures V-A CEO Fund, L.P., ComVentures V-B CEO Fund, L.P., and ComVentures V Entrepreneurs' Fund, L.P.
- (15) Includes 1,694,296 shares of common stock issuable upon the exercise of certain options held by Mr. Koss.
- (16) Includes 142,500 shares of common stock issuable upon the exercise of certain options held by Mr. Liebhaber.
- (17) Includes 326,720 shares of common stock issuable upon the exercise of certain options held by Mr. Nuss.
- (18) Includes 137,500 shares of common stock issuable upon the exercise of certain options held by Mr. Panditi and 3,963 shares of series C preferred stock, on an as-converted basis, held by a trust of which Mr. Panditi is trustee.
- (19) Includes 25,164 shares of common stock issuable upon the exercise of certain options held by Mr. Corkum.
- (20) Includes 42,500 shares of common stock issuable upon the exercise of certain options held by Mr. Dale.
- (21) Includes 15,183 shares of common stock issuable upon the exercise of certain options held by Mr. Aucoin.
- (22) Includes 584,209 shares of common stock issuable upon the exercise of certain options held by Mr. Waszak.

COMPARISON OF STOCKHOLDER RIGHTS

General

Both Internet Photonics and CIENA are corporations organized under the laws of the State of Delaware and are therefore subject to the Delaware general corporation law. However, there are some differences in the certificate of incorporations and bylaws of Internet Photonics and CIENA and in certain agreements among Internet Photonics' stockholders that affect their rights.

Capitalization

CIENA. CIENA is authorized to issue 980,000,000 shares of common stock and 20,000,000 shares of preferred stock. On March 24, 2004, 476,807,751 shares of CIENA common stock were outstanding and no shares of CIENA preferred stock were outstanding. CIENA's board has the authority, without stockholder approval, to issue shares of preferred stock from time to time in one or more series and to fix the rights and preferences, including voting rights, of each such series of preferred stock, which rights and preferences may be superior to that of CIENA's common stock.

Internet Photonics. Internet Photonics is authorized to issue 90,000,000 shares of common stock. In addition, Internet Photonics is authorized to issue 61,142,495 shares of preferred stock, of which 783,333 shares have been designated series A preferred stock, 1,200,000 shares have been designated series B preferred stock, 2,464,162 shares have been designated series C preferred stock, 31,495,000 shares have been designated series D preferred stock, and 25,200,000 have been designated series E preferred stock. On March 1, 2004, there were (i) 485,141 shares of common stock outstanding, (ii) 783,333 shares of series A preferred stock outstanding, (iii) 1,199,999 shares of series B preferred stock outstanding, (iv) 2,395,435 shares of series C preferred stock outstanding, (v) 30,999,994 shares of series D preferred stock outstanding and (vi) 8,250,000 shares of series E preferred stock outstanding.

On March 1, there were outstanding warrants to purchase (i) 68,721 shares of series C preferred stock, (ii) 432,496 shares of series D preferred stock and (iii) 20,000 shares of series E preferred stock. In addition, options to purchase 9,959,953 shares of common stock were outstanding under the Internet Photonics' 2000 Corporate Stock Option Plan.

Voting Rights

CIENA. Each holder of CIENA common stock is entitled to one vote for each share and may not cumulate votes for the election of directors.

Internet Photonics. Subject to the voting rights of the holders of the preferred stock, the holders of common stock are entitled to one vote for each share held of record upon such matters and in such manner as may be provided by law.

Each share of series A, series B, series C, series D and series E preferred stock votes together with the common stock and not as a separate class, except as specifically required by law or by the certificate of incorporation, with those exceptions set forth below. Each share of preferred stock has the number of votes equal to the number of shares of common stock then issuable upon conversion of such share of preferred stock.

Board of Directors. Pursuant to a Second Amended and Restated Stockholders Agreement, as amended (the "Internet Photonics Stockholders Agreement") among Internet Photonics and the holders of common stock and/or preferred stock named therein, each stockholder a party to the Internet Photonics Stockholders Agreement has agreed to vote their respective shares to ensure the following:

- no more than 7 directors are to serve on the board of directors;
- the election of Internet Photonics' chief executive officer to the board of directors;

- the election of 2 directors nominated by holders of the series A, series B and series C preferred stock, voting together as a class (with such directors nominated by Sprout Capital IX, L.P. for so long as such stockholder and its affiliates hold at least 15% of the aggregate outstanding number of shares of series A, series B and series C preferred stock);
- the election of 1 director nominated by holders of the series D preferred stock (with such director nominated by ComVentures V, L.P. for so long as such stockholder holds at least 15% of the number of outstanding shares of series D preferred stock); and
- the election of up to 3 directors by all of the holders of Internet Photonics' outstanding common and preferred stock, voting together on an as-converted basis.

Protective Provisions. For so long as at least 3,750,000 shares of preferred stock remain outstanding, the consent of the holders of more than 64% of the preferred stock, voting together as a single class on an as-converted basis, is necessary to take any of the following actions:

- amend Internet Photonics' certificate of incorporation or bylaws so as to increase or decrease the number of directors constituting the board of directors;
- purchase, redeem or otherwise acquire for value any capital stock (or any warrant, option or right to purchase capital stock) of Internet Photonics other than redemption, on or after October 1, 2008, of the currently designated series of preferred stock or upon any liquidation, dissolution, indefinite cessation of business or winding up of Internet Photonics, and except for acquisitions of common stock by Internet Photonics from officers, directors, consultants and employees pursuant to agreements that permit Internet Photonics to repurchase such shares upon certain events, provided that repurchases from officers, directors, consultants and employees do not exceed \$300,000 in total during any 12-month period;
- approve or effect any sale or other disposition of all or substantially all of the assets of Internet Photonics, or any consolidation, merger, combination, reorganization or similar transaction in which Internet Photonics is not the surviving entity or the stockholders of Internet Photonics immediately prior to such transaction own less than 50% of Internet Photonics' voting power immediately after such transaction, or in which AT&T Corp. or its affiliates own in excess of 50% of the voting power of Internet Photonics;
- declare or pay any dividend, or make any distribution of any sort in respect of any class of equity security of Internet Photonics; or
- approve or effect any dissolution or liquidation of Internet Photonics.

In addition to the foregoing consent requirements, the following consents of each separate series of preferred stock is required:

- the separate consent of the holders of more than 75% of the outstanding shares of series E preferred stock is required to amend Internet Photonics' certificate of incorporation in any way that (i) creates a class of capital stock that has rights senior to or on a parity with the series E preferred stock with respect to dividends, distributions, rights upon liquidation or sale of the company, redemption rights, anti-dilution rights, conversion rights or voting power or (ii) adversely affects any of the rights, privileges or preferences of the series E preferred stock, provided that any amendment that similarly adversely affects the other series of preferred stock does not require a separate class vote of the series E preferred stock and instead requires the vote or written consent of the holders of more than 64% of the preferred stock, voting together on an as-converted basis;
- the separate consent of the holders of more than 75% of the outstanding shares of series D preferred stock is required to amend Internet Photonics' certificate of incorporation in any way that (i) creates a class of capital stock that has rights senior to or on a parity with the series D preferred stock, but junior to the series E preferred stock, with respect to dividends, distributions, rights upon liquidation or sale of the company, redemption rights, anti-dilution rights, conversion

rights or voting power or (ii) adversely affects any of the rights, privileges or preferences of the series D preferred stock, provided that any amendment that similarly adversely affects the other series of preferred stock does not require a separate class vote of the series D preferred stock and instead requires the vote or written consent of the holders of more than 64% of the preferred stock, voting together on an as-converted basis;

- the separate consent of the holders of more than 50% of the outstanding shares of series A preferred stock is required to amend Internet Photonics' certificate of incorporation in any way that adversely affects any of the rights, privileges or preferences of the series A preferred stock, provided that any amendment that similarly adversely affects the other series of preferred stock does not require a separate class vote of the series A preferred stock and instead requires the vote or written consent of the holders of more than 64% of the preferred stock, voting together on an as-converted basis, and provided further that any such amendment that similarly adversely affects the series B and series C preferred stock (but not the series D or series E preferred stock) instead requires the separate vote or written consent of a majority of the outstanding shares of series A, series B and series C preferred stock, voting together on an as-converted basis;
- the separate consent of the holders of more than 50% of the outstanding shares of series B preferred stock is required to amend Internet Photonics' certificate of incorporation in any way that adversely affects any of the rights, privileges or preferences of the series B preferred stock, provided that any amendment that similarly adversely affects the other series of preferred stock does not require a separate class vote of the series B preferred stock and instead requires the vote or written consent of the holders of more than 64% of the preferred stock, voting together on an as-converted basis, and provided further that any such amendment that similarly adversely affects the series A and series C preferred stock (but not the series D or series E preferred stock) instead requires the separate vote or written consent of a majority of the outstanding shares of series A, series B and series C preferred stock, voting together on an as-converted basis;
- the separate consent of the holders of more than 50% of the outstanding shares of series C preferred stock is required to amend Internet Photonics' certificate of incorporation in any way that adversely affects any of the rights, privileges or preferences of the series C preferred stock, provided that any amendment that similarly adversely affects the other series of preferred stock does not require a separate class vote of the series C preferred stock and instead requires the vote or written consent of the holders of more than 64% of the preferred stock, voting together on an as-converted basis, and provided further that any such amendment that similarly adversely affects the series A and series B preferred stock (but not the series D or series E preferred stock) instead requires the separate vote or written consent of a majority of the outstanding shares of series A, series B and series C preferred stock, voting together on an as-converted basis; and
- the separate consent of the holders of a majority of the series A, series B and series C preferred stock voting together on an as-converted basis, is required to amend Internet Photonics' certificate of incorporation in any way that creates a class of capital stock that has rights senior to or on parity with such series of preferred stock but junior to the series D preferred stock with respect to dividends, distributions, rights upon liquidation or sale of the company, redemption rights or voting power.

Number and Classification of Directors

CIENA. CIENA's certificate of incorporation provides that its board of directors will be comprised of three classes of two or more directors each, with each class elected for a term of three years, so that a different class of directors stands for election each year. CIENA currently has nine directors and the board of directors may increase or decrease the size of the board of directors by resolution.

Internet Photonics. Internet Photonics' bylaws provide that its board of directors shall consist of not less than one nor more than seven directors, as fixed by resolution of the board of directors, with each

director serving until the next annual meeting of stockholders. Internet Photonics currently has seven directors serving on its board of directors.

Removal of Directors

CIENA. CIENA's certificate of incorporation provides that, subject to the rights of the then outstanding series of preferred stock, any director or the entire board of directors may be removed from office at any time, with or without cause, by the affirmative vote of a majority of the shares of capital stock of CIENA outstanding and entitled to vote on the election of directors, voting together as a separate class. CIENA's bylaws provide that a director may only be removed from office by the stockholders at a special meeting called for that purpose.

Internet Photonics. The Internet Photonics Stockholders Agreement provides that a director designated by a class or series or classes or series of stockholders may be removed upon the written request of the stockholder or majority in interest of the stockholders then entitled to nominate such director.

Filling Vacancies on the Board of Directors

CIENA. CIENA's certificate of incorporation provides that, subject to the rights of any then-existing series of preferred stock, if a vacancy occurs on the CIENA board of directors, (other than a vacancy resulting from the removal of a director by the stockholders but including a vacancy resulting from an increase in the size of the board of directors), the vacancy may be filled only by a majority vote of the directors then in office, even if they constitute less than a quorum. However, if a vacancy results from the removal of a director by the stockholders at a meeting called for that purpose, then the stockholders may fill the vacancy at that meeting.

Internet Photonics. The Internet Photonics Stockholders Agreement provides that any vacancy resulting from the resignation, death or removal of a director designated by a class or series or classes or series of stockholders may be filled in the same manner as such director was elected by such class or series or classes or series of stockholders. Internet Photonics' bylaws provide that vacancies may be filled by a majority of the directors then in office, though less than a quorum, or by the sole remaining director, and that whenever the holders of any class or classes of stock or series thereof are entitled to elect one or more directors by provisions of Internet Photonics' certificate of incorporation, vacancies in such directorships may be filled by a majority of the directors elected by such class or classes or series or by a sole remaining director so elected.

Amendments to Certificate of Incorporation

CIENA. CIENA's certificate of incorporation provides that the affirmative vote of the holders of at least 66 2/3% of the voting power of all then outstanding shares of the capital stock of CIENA entitled to vote on the election of directors, voting together as a separate class, is required to amend certain provisions of CIENA's certificate of incorporation relating to the board of directors, stockholder action, amendment of the certificate of incorporation and indemnification of officers and directors of CIENA. Otherwise, the certificate of incorporation may be amended by the holders of a majority of the voting power of all outstanding shares of CIENA stock.

Internet Photonics. Subject to the foregoing exceptions set forth under the section entitled "—Voting Rights—Internet Photonics—Protective Provisions," Internet Photonics' certificate of incorporation may be amended in accordance with the DGCL, which provides that the certificate of incorporation may be amended with the affirmative vote of at least a majority of the voting power of all outstanding shares of the capital stock of Internet Photonics (assuming conversion of all outstanding preferred stock) entitled to vote on the election of directors.

Amendments to Bylaws

CIENA. CIENA's certificate of incorporation provides that the bylaws may be amended by a majority vote of the total number of authorized directors (whether or not there exist any vacancies in the previously authorized directorships at the time any resolution providing for amendment is presented to the board of directors) or in addition to any vote of any holders of any class or series of CIENA stock required by law or by CIENA's certificate of incorporation by an affirmative vote of the holders of at least 66 2/3% of the voting power of all then outstanding shares of the capital stock of CIENA entitled to vote on the election of directors voting together as a single class.

Internet Photonics. Internet Photonics' bylaws provide that they may be amended by the stockholders or by the board of directors, when such power is conferred upon the board of directors by the certificate of incorporation. With respect to amendment by the stockholders, the DGCL provides that a majority vote of the holders of the outstanding voting shares at any regular meeting of the stockholders is required to amend the bylaws. Internet Photonics' certificate of incorporation provides that, in furtherance and not in limitation of any powers conferred on the board of directors by the DGCL, the board of directors may amend the bylaws, subject to the protective provisions in favor of holders of Internet Photonics' preferred stock.

Action by Written Consent

CIENA. CIENA's certificate of incorporation provides that any action by the stockholders may only be taken at an annual or special meeting and may not be taken by written consent.

Internet Photonics. Internet Photonics' bylaws provide that any action that must or may be required to be taken by stockholders may be taken by written consent.

Notice of Stockholder Actions

CIENA. Neither CIENA's certificate of incorporation nor its bylaws require advance notice of stockholder nominations of directors or any other business to be brought by stockholders before any meeting of stockholders, except in the case of a special meeting of the stockholders, which requires notice of the purposes for which a meeting is called.

Internet Photonics. Neither Internet Photonics' certificate of incorporation nor its bylaws requires advance notice of stockholder nominations of directors or any other business brought by stockholders before any meeting of stockholders.

Right to Call Special Meeting of Stockholders

CIENA. CIENA's bylaws provide that a special meeting of stockholders may only be called by the board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors (whether or not there exist any vacancies in the previously authorized directorships at the time any such resolution is presented to the board of directors for adoption) or by the holders of not less than ten percent (10%) of all of the shares entitled to cast votes at the meeting.

Internet Photonics. Internet Photonics' bylaws provide that a special meeting of stockholders may be called at any time by the chairman of the board of directors, by the chief executive officer or by a majority of the board of directors or at the written request of stockholders owning a majority of the entire capital stock of the company issued and outstanding and entitled to vote.

Dividends

CIENA. CIENA's bylaws provide that, from time to time, CIENA's board may declare and pay dividends upon shares of CIENA stock, but only out of funds available for the payment of dividends as provided by law.

Internet Photonics. Internet Photonics' certificate of incorporation provides that holders of preferred stock are entitled to receive non-cumulative dividends at the rate of 8% per annum on the "original issue price" of such series of preferred stock, with the amounts to be adjusted upon a stock split, reverse split or similar event, when and if declared by the board of directors out of funds legally available therefor. The original issue price of the series A, series B and series C preferred stock is \$10.00. The original issue price of the series D and series E preferred stock is \$1.00. Any dividends on the preferred stock are to be paid first to the holders of series E preferred stock, second to the holders of series D preferred stock, and lastly, to the holders of the series A, series B and series C preferred stock.

Liquidation Rights

CIENA. CIENA's certificate of incorporation provides that, in the event of a liquidation of CIENA, the holders of CIENA common stock shall receive all remaining assets of CIENA ratably in proportion to the number of shares of common stock held by them.

Internet Photonics. Internet Photonics' certificate of incorporation provides that in the event Internet Photonics liquidates, dissolves, ceases or winds up its business or is sold, distributions shall be made to holders of Internet Photonics' common stock and preferred stock as follows:

- first, the holders of the series E preferred stock are entitled to receive, out of the assets of Internet Photonics available for distribution to stockholders, prior to any payment to the holders of any other series of preferred stock or common stock an amount per share equal to \$1.00 plus any declared but unpaid dividends in respect of such share;
- second, the holders of the series D and series E preferred stock are entitled to receive, out of the assets of Internet Photonics available for distribution to stockholders an amount per share equal to:
 - in the case of the series D preferred stock, \$1.00 plus any declared but unpaid dividends in respect of such share; or
 - in the case of the series E preferred stock, \$0.50; and
 - such amounts are to be paid prior to any payment to the holders of any series A, series B or series C preferred stock or any common stock until such time as the series D preferred stock has been paid in full the foregoing liquidation preferential amount;
- third, the holders of series A, series B, series C and series E preferred stock are entitled to receive, out of the assets of Internet Photonics available for distribution to stockholders, prior to any payment to the holders of common stock or any series of preferred stock designated after the initial issuance of the series E preferred stock an amount per share equal to:
 - in the case of any shares of series A, series B or series C preferred stock, \$10.00 plus any declared but unpaid dividends in respect of such share; or
 - in the case of the series E preferred stock, any remaining portion of the \$0.50 per share amount described above not previously paid to holders of series E preferred stock; and
- lastly, any remaining assets of Internet Photonics are to be distributed pro rata to the holders of common stock, series B, series C, series D and series E preferred stock on an as-converted basis, provided that holders of series B preferred stock cease to participate in any distributions pursuant to this paragraph once they have received a total of \$50 per share under this paragraph and the foregoing paragraphs relating to distributions upon the liquidation, dissolution, winding up or sale of Internet Photonics.

Each of the following events is deemed a liquidation, dissolution, winding up or sale of the company:

- any liquidation, dissolution, indefinite cessation of business or winding up of the company, whether voluntary or involuntary;

- any consolidation, merger, combination, reorganization or other similar transaction, or a series of related transactions, in which Internet Photonics is not the surviving entity or as a result of which shares of capital stock of Internet Photonics constituting in excess of 50% of its voting power are owned beneficially by (i) AT&T Corp. or its affiliates or (ii) person or entities that were not stockholders of Internet Photonics immediately prior to such transaction; or
- a sale or other disposition of all or substantially all of the assets of Internet Photonics, in one transaction or a series of related transactions.

Conversion and Redemption

CIENA. Holders of CIENA common stock have no right to convert their shares into any other shares of the capital stock of CIENA or any other securities or to cause CIENA to redeem their shares.

Internet Photonics.

Conversion Rights. Holders of preferred stock have the right at any time to convert their shares of preferred stock into shares of common stock based on the conversion rate applicable to such series of preferred stock. The following table sets forth the number of shares of common stock issuable upon conversion of one share of the applicable series of preferred stock:

Series of Preferred Stock	Conversion Rate
Series A preferred stock	1.419533
Series B preferred stock	1.419533
Series C preferred stock	3.316541
Series D preferred stock	1.0
Series E preferred stock	1.0

The Internet Photonics preferred stock will automatically convert into common stock, at the then effective applicable conversion ratio, upon the closing of an underwritten public offering of Internet Photonics common stock in which the net cash proceeds to Internet Photonics exceeds \$25 million and in which the offering price per share is at least \$5.00. Each series of preferred stock also is subject to automatic conversion into common stock, at the then effective applicable conversion ratio, at any time upon the affirmative election of the holders of at least 64% of the outstanding shares of preferred stock (voting together on an as-converted basis).

The number of shares of common stock into which preferred stock is convertible is subject to adjustment in the following circumstances, subject to certain exceptions:

- if Internet Photonics issues or sells shares of its capital stock, or warrants, options or purchase rights without consideration or at a price less than the “original issue price” of a series of preferred stock;
- any issuance of common stock for securities convertible into or exchangeable for common stock as a dividend or other distribution; or
- any subdivision or combination of outstanding shares of common stock.

Redemption Rights. If at any time after October 1, 2008 the holders of more than 64% of Internet Photonics’ preferred stock, voting together on an as-converted basis, elect to redeem the preferred stock, Internet Photonics is required to redeem all of the outstanding shares of preferred stock, to the extent legally permissible, by paying in exchange for such shares of preferred stock an amount in cash equal to the applicable original issue price for such shares of preferred stock plus any declared but unpaid dividends on such shares.

Registration Rights

CIENA. The common stock to be issued in the merger will be registered under the Securities Act of 1933.

Internet Photonics. Set forth below is a summary of the registration rights of certain holders of common stock and the holders of preferred stock pursuant to Internet Photonics' Second Amended and Restated Registration Rights Agreement, as amended, (the "Registration Rights Agreement") entered into among Internet Photonics and the holders of common stock and/or preferred stock named therein. The term "registrable securities," as used below, means Internet Photonics common stock issued or issuable upon conversion of the preferred stock. Registrable securities does not include any such common stock which have previously been registered, sold to the public or which have been sold in a private transaction to a permitted transferee that, together with its affiliates, does not hold at least 1 million shares of preferred stock (or shares of common stock issued upon conversion of preferred stock).

Demand Registration Rights. If holders of at least 20% of the registrable securities then outstanding and entitled to registration request in writing that Internet Photonics file a registration statement under the Securities Act covering the registration of at least 20% of the registrable securities then outstanding, then Internet Photonics is obligated to use commercially reasonable efforts to cause the requested shares to be registered. However, Internet Photonics is not obligated to effect any registration:

- prior to the earlier of six months after the effective date of its initial public offering and December 1, 2004;
- after it has initiated three such registrations which have either become effective and under which registrable securities have been sold or for which it has borne the expense of registration but has been withdrawn;
- during the period starting 60 days prior to Internet Photonics' good faith estimate of the date of filing of, and ending on the earlier of (i) the completion of the sale of stock covered by or (ii) the date 90 days after the effective date of, a company-initiated registration.

Incidental Registration Rights. The holders of registrable securities are also entitled to registration rights on all Internet Photonics registrations, excluding registrations on Form S-4 or S-8 or another form not available for registering registrable securities for sale to the public. If the registration is an underwritten offering, then the holder's participation in such underwritten offering shall be conditioned upon the party agreeing to participate in the underwriting on the same terms and conditions as the shares of common stock otherwise being sold pursuant to such registration. If the underwriter of the registration determines that marketing factors require a limitation on the aggregate amount of securities sold on the market, Internet Photonics is required to include in the offering only the number of securities which the managing underwriter believes marketing factors allow.

Form S-3 Registration Rights. Any holder of registrable securities may also demand registrations on Form S-3 provided Form S-3 is available for such offering and the aggregate proceeds are not less than \$1 million. Internet Photonics may refuse to effect a "Form S-3" registration if it has already effected one such registration in the preceding 12 months.

Indemnification. To the extent permitted by law, Internet Photonics will indemnify the other parties to the agreement and certain related parties against any losses, claims, damages or liabilities, joint or several, to which they may become subject based on any untrue statement or alleged untrue statement of material fact contained in, or material fact omitted from, a registration statement covering registrable securities, or any other violation or alleged violation of any state or federal securities laws by Internet Photonics.

To the extent permitted by law, each investor holding registrable securities included in a registration that Internet Photonics effected must indemnify Internet Photonics, its officers, directors, employees, agents, control persons and underwriters and any other parties and certain related parties selling securities in such registration against any losses, claims, damages or liabilities, joint or several, to which they may

become subject based on any of the violations enumerated above to the extent such violation occurs in reliance upon written information supplied by such investor for use in such registration.

Transferability. The aforementioned registration rights may be transferred by a holder of registrable securities to a transferee or assignee of such holder's registrable securities that holds together with its affiliates at least 1,000,000 shares of registrable securities.

Expenses. Internet Photonics is obligated to bear registration expenses, exclusive of underwriting discounts and commissions, for each of the above-described demand registrations, incidental registrations and S-3 registrations. Registration expenses not covered by Internet Photonics are to be borne pro rata by the holders of the securities so registered, based on the number of shares so registered.

Market Standoff. Each holder of registrable securities has agreed that it will not, upon the request of Internet Photonics or its underwriter, sell, transfer or otherwise dispose of any common stock or other securities of Internet Photonics, held by the holder, other than those included in the registration, for up to 180 days following the effective date of a registration statement filed under the Securities Act relating to Internet Photonics' initial public offering, provided each of Internet Photonics' officers and directors and each holder of at least 1% of Internet Photonics' voting securities is similarly bound.

Termination. The above registration rights with respect to any holder of registrable securities terminate upon the earlier of (i) such time as such holder is able to sell all of their shares pursuant to Rule 144(k) of the Securities Act or (ii) the closing of an acquisition or other transaction in which such holder's registrable securities are exchanged for publicly traded stock of another entity.

Amendment. Registration rights may be amended or waived upon Internet Photonics' consent and the consent of holders holding at least a majority in interest of the preferred stock registrable under the Registration Rights Agreement.

Additional Rights of Certain Internet Photonics Stockholders

Internet Photonics has entered into management rights agreements with certain securityholders who are "venture capital operating companies." Pursuant to such agreements, the parties thereto have the right to:

- consult with and advise management of Internet Photonics on significant business issues, including operating plans;
- examine and inspect Internet Photonics' books, records and facilities; and
- if such party is not represented on the board of directors of Internet Photonics, a representative of such party may attend all board of directors meetings as a nonvoting observer.

Stockholder Proposals

CIENA. All stockholder proposals intended to be presented at CIENA's 2005 Annual Meeting must be received by CIENA not later than September 29, 2004 and must otherwise comply with the rules of the SEC for inclusion in CIENA's information statement and form of proxy relating to that meeting. Proposals should be delivered to CIENA Corporation, 1201 Winterson Road, Linthicum, Maryland 21090, Attention: Corporate Secretary.

Except in the case of proposals made in accordance with Rule 14a-8, stockholders intending to bring any business before an annual meeting of stockholders must deliver written notice thereof to CIENA's Secretary not less than 45 days prior to the anniversary of the date on which CIENA first mailed its proxy materials for its immediately preceding annual meeting of stockholders. The deadline for matters sought to be presented at the 2005 Annual Meeting is December 13, 2004. If a stockholder gives notice of such a proposal after the December 13, 2004 deadline, CIENA's proxy holders will be allowed to use their discretionary voting authority to vote against the stockholder proposal when and if the proposal is raised at the Corporation's 2005 Annual Meeting.

OTHER MATTERS

Legal Matters

The legal validity of the CIENA common stock offered hereby will be passed upon by Hogan & Hartson L.L.P., counsel to CIENA.

The U.S. federal income tax consequences described in this information statement/prospectus are the subject of opinions issued by Hogan & Hartson L.L.P., counsel to CIENA, and Sonnenschein Nath & Rosenthal LLP, New York, New York, counsel to Internet Photonics.

Experts

The consolidated financial statements of CIENA Corporation as of October 31, 2003 and 2002 and for each of the years in the three-year period ended October 31, 2003 incorporated in this information statement/prospectus by reference to CIENA's Annual Report on Form 10-K for the year ended October 31, 2003 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

CIENA has filed the registration statement of which this information statement/prospectus is a part. The registration statement registers the distribution to Internet Photonics stockholders of the shares of CIENA common stock to be issued in connection with the merger.

CIENA files annual, quarterly and current reports, information statements and other information with the SEC. You may read and copy any of this information at the SEC's public reference room at 450 Fifth Street N.W., Room 1024, Washington, D.C. 20549. You may obtain information on the operation of the SEC's Public Reference Room by calling the SEC at 1-800-SEC-0330.

The SEC also maintains an Internet web site that contains reports, information statements and other information regarding issuers, like CIENA, that file electronically with the SEC. The address of that site is <http://www.sec.gov>. The SEC file number for CIENA documents filed under the Exchange Act is 0-21969.

The SEC allows CIENA to "incorporate by reference" information into this information statement/prospectus. This means that CIENA can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be a part of this information statement/prospectus, except for any information that is superseded by information that is included directly in this document.

This information statement/prospectus incorporates by reference the documents listed below that CIENA has previously filed or will file with the SEC. They contain important information about CIENA and its financial condition.

- CIENA's annual report on Form 10-K for its fiscal year ended October 31, 2003, filed on December 12, 2003;
- CIENA's quarterly report on Form 10-Q for the fiscal quarter ended January 31, 2004, filed on February 19, 2004;
- CIENA's definitive proxy statement filed on January 28, 2004;
- CIENA's current report on Form 8-K (Item 5 and Item 7 reported) filed on November 18, 2003;
- CIENA's current report on Form 8-K (Item 5 and Item 7 reported) filed on December 22, 2003;
- CIENA's current report on Form 8-K (Item 5 and Item 7 reported) filed on February 19, 2004;
- CIENA's current report on Form 8-K (Item 5 and Item 7 reported) filed on February 19, 2004;

- All documents filed with the SEC by CIENA pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this information statement/prospectus and prior to the date of the closing of the merger are incorporated by reference into this information statement/prospectus, effective the date such documents are filed; and
- The description of CIENA common stock set forth in the CIENA registration statement filed under Section 12 of the Exchange Act on Form 8-A on January 13, 1997, including any amendment or report filed with the SEC for the purpose of updating such description.

In the event of conflicting information in these documents, the information in the latest filed document should be considered correct.

You can obtain any of the documents incorporated by reference in this document through CIENA or from the SEC through the SEC's web site at the address described above. Documents incorporated by reference are available from CIENA without charge, excluding any exhibits to those documents unless the exhibit is specifically incorporated by reference as an exhibit in this information statement/prospectus. You can obtain documents incorporated by reference in this information statement/prospectus by requesting them in writing or by telephone from CIENA at the following address:

CIENA Corporation
1201 Winterson Road
Linthicum, Maryland 21090
Attn: General Counsel
Telephone (410) 865-8500

You can also contact CIENA at its website, www.ciena.com. If you request any incorporated document from CIENA, it will mail them to you by first class mail, or another equally prompt means, within two business days after it receives your request.

This document constitutes the prospectus of CIENA and the information statement of Internet Photonics. CIENA has supplied all information contained or incorporated by reference in this information statement/prospectus relating to CIENA and Internet Photonics has supplied all such information relating to Internet Photonics.

Neither CIENA nor Internet Photonics has authorized anyone to give any information or make any representation about the merger, CIENA or Internet Photonics that is different from, or in addition to, that contained in this information statement/prospectus or in any of the materials that CIENA has incorporated into this document. Therefore, if anyone does give you information of this sort, you should not rely on it. The information contained in this document speaks only as of the date of this document, unless the information specifically indicates that another date applies.

AGREEMENT AND PLAN OF MERGER
AMONG
CIENA CORPORATION
GREGORY W. KOSS
STEVEN M. WASZAK
AND
INTERNET PHOTONICS, INC.

Dated as of February 18, 2004

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Exhibit E	Opinion of Counsel to the Company
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AGREEMENT AND PLAN OF MERGER

AGREEMENT AND PLAN OF MERGER (this "Agreement") dated as of February 18, 2004 by and among **CIENA CORPORATION**, a Delaware corporation ("CIENA"), **Gregory W. Koss** and **Steven M. Waszak** (collectively, the "Principal Officers") and **Internet Photonics, Inc.**, a Delaware corporation (the "Company").

RECITALS

WHEREAS, the Boards of Directors of each of CIENA and the Company have determined that the merger of the Company with and into CIENA (the "Merger") in accordance with the provisions of the Delaware General Corporation Law, as amended (the "DGCL"), and subject to the terms and conditions of this Agreement, is advisable and in the best interests of CIENA and the Company and their respective stockholders;

WHEREAS, the Company is a Delaware corporation and has authorized 90,000,000 shares of common stock, par value \$0.001 per share ("Company Common Stock"), and 61,142,495 shares of preferred stock, \$0.01 par value per share, of which 783,333 have been designated Series A Preferred Stock (the "Series A Preferred Stock"), 1,200,000 have been designated Series B Preferred Stock (the "Series B Preferred Stock"), 2,464,162 have been designated Series C Preferred Stock (the "Series C Preferred Stock"), 31,495,000 have been designated Series D Preferred Stock (the "Series D Preferred Stock"), and 25,200,000 have been designated Series E Preferred Stock (the "Series E Preferred Stock") (the Series A, the Series B, the Series C, the Series D and the Series E Preferred Stock are referred to as the "Company Preferred Stock," and the Company Preferred Stock and the Company Common Stock are referred to as the "Company Capital Stock");

WHEREAS, in order to induce CIENA to enter into this Agreement, the Company's Chief Executive Officer and Chief Financial Officer have provided certifications of certain Company matters in the form attached hereto as **Exhibit B**;

WHEREAS, in order to induce the Company to enter into this Agreement, concurrently herewith, CIENA and the Company are entering into a bridge loan agreement in the form attached hereto as **Exhibit C** (the "Bridge Loan Agreement") pursuant to which, among other things, CIENA has agreed, subject to the terms and conditions set forth therein, to provide the Company with funds sufficient to operate the Company's business in the ordinary course prior to the Closing Date (as defined herein); and

WHEREAS, the parties intend that, for federal income tax purposes, the Merger shall qualify as a reorganization within the meaning of Section 368(a) of the Code.

NOW, THEREFORE, in consideration of the foregoing and the mutual representations, warranties, covenants and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto intending to be legally bound do hereby agree as follows:

ARTICLE I

THE MERGER

SECTION 1.1. General.

(a) Subject to the terms and conditions of this Agreement and in accordance with the DGCL, at the Effective Time (as defined below) (i) the Company shall be merged with and into CIENA, (ii) the separate corporate existence of the Company shall cease and (iii) CIENA shall be the surviving company (the “Surviving Company”) and shall continue its legal existence under the laws of the State of Delaware.

(b) The Merger shall become effective at the time of filing of a Certificate of Merger (the “Certificate of Merger”) with the Secretary of State of the State of Delaware in accordance with the provisions of Section 251 of the DGCL, or at such later time as may be stated in the Certificate of Merger (the “Effective Time”). The closing of the Merger (the “Closing”) shall take place at the offices of Hogan & Hartson L.L.P., 111 South Calvert Street, Baltimore, Maryland 21202 at 10:00 A.M., as soon as possible, but in any event not later than two Business Days, after the date on which the last of the conditions set forth in **Article V** shall have been satisfied or waived, or on such other date, time and place as the Company and CIENA may mutually agree (the “Closing Date”).

(c) At the Effective Time, the effect of the Merger shall be as provided in this Agreement, the Certificate of Merger and the applicable provisions of the DGCL. Without limiting the generality of the foregoing, and subject thereto, at the Effective Time, all the property, rights, privileges, powers and franchises of the Company shall vest in the Surviving Company, and all debts, liabilities, obligations, restrictions, disabilities and duties of the Company shall become the debts, liabilities, obligations, restrictions, disabilities and duties of the Surviving Company.

SECTION 1.2. Certificate of Incorporation.

The Certificate of Incorporation of CIENA, as in effect immediately prior to the Effective Time, shall be the Certificate of Incorporation of the Surviving Company, until thereafter amended as provided therein and by law.

SECTION 1.3. The Bylaws.

The bylaws of CIENA, as in effect immediately prior to the Effective Time, shall be adopted as the bylaws of the Surviving Company, until thereafter amended as provided therein and by law.

SECTION 1.4. Board of Directors and Officers.

From and after the Effective Time, the Board of Directors and Officers of CIENA at the Effective Time shall be the Board of Directors and Officers of the Surviving Company, each to hold office until his or her respective successors are duly elected or appointed and qualified.

SECTION 1.5. Conversion of Securities.

At the Effective Time, by virtue of the Merger and without any action on the part of the Company or the holders of the Company Capital Stock (the “Stockholders”):

(a) Each issued and outstanding share of CIENA capital stock immediately prior to the Effective Time shall remain outstanding and unaffected as issued and outstanding shares of the Surviving Company;

(b) Each share of Company Capital Stock held in the treasury of the Company shall be canceled without any conversion thereof and no payment or distribution shall be made with respect thereto;

(c) The then issued and outstanding shares of Company Capital Stock shall be converted into shares of CIENA common stock, par value \$0.01 per share (“CIENA Common Stock”), in accordance with this **Section 1.5(c)**. Subject to the provisions of **Sections 1.6** and **1.9**, each share of Company Capital Stock issued and outstanding immediately prior to the Effective Time (other than (i) shares canceled in

accordance with **Section 1.5(b)** and (ii) Dissenting Shares (as defined below)) shall be converted into a fraction of a share of CIENA Common Stock, including the corresponding fraction of a right (“Right”) to purchase shares of Series A Junior Participating Preferred Stock, par value \$0.01 per share, pursuant to the Rights Agreement dated as of December 29, 1997 between CIENA and Equiserve Trust Company, N.A. (formerly BankBoston, N.A.) as Rights Agent, as amended on September 13, 1998 and October 19, 1998, (“Rights Agreement”) determined as follows:

(i) initially a holder of a share of a particular series of Company Preferred Stock outstanding, if any, at the Effective Time shall receive in exchange therefor a portion of a share of CIENA Common Stock (the “Preferred Stock Exchange Ratio”) equal to:

Preferred Liquidation Value

Per Share Price

(ii) thereafter a holder of a share of Company Common Stock and a holder of Company Preferred Stock other than the Series A Preferred Stock (treating the Company Preferred Stock on an as converted to Company Common Stock basis for purposes of this calculation only) outstanding at the Effective Time shall receive a portion of a share of CIENA Common Stock (the “Common Stock Exchange Ratio”) equal to:

Aggregate Share Consideration– Preferred Share Liquidation Consideration

Company Outstanding Shares + Common Stock Equivalents

, provided, however, that (x) the maximum number of shares that shall be issued by CIENA in the Merger, under Assumed Options (except for (a) Out of Money Options, (b) unvested Company Options held by Terminated Employees, and (c) unvested Company Options held by Transitional Employees projected to be unvested as of the end of the applicable transitional period), and under any assumed Company Preferred Warrants will not exceed the Aggregate Share Consideration, and (y) no holder of Series B Preferred Stock shall receive any portion of the Aggregate Share Consideration that would cause such shares of Company Preferred Stock to receive a portion of the Aggregate Share Consideration having a value, based on the Per Share Price, in excess of the limitations set forth in Article FOURTH Section D(3)(b) of the Company Certificate (and any such excess shares shall be allocated among the remaining holders of Company Capital Stock as provided therein).

For purposes hereof, the following definitions apply:

“Aggregate Share Consideration” =	24,481,802 shares of CIENA Common Stock
“Company Outstanding Shares” =	the total number of shares of Company Common Stock outstanding at the Effective Time.
“Per Share Price” =	the average closing price of a share of CIENA Common Stock as reported on the NASDAQ National Market (‘NASDAQ’) for the ten most recent days that CIENA Common Stock has traded ending on the day prior to the date of this Agreement.
“Preferred Liquidation Value” =	the liquidation preference attributable to each of the outstanding shares of a particular series of Company Preferred Stock pursuant to Section 3 (a) under the heading ‘Preferred Stock’ in Article FOURTH Section D of the Company Certificate, treating the Merger as a liquidation for purposes thereof.
“Preferred Share Liquidation Consideration” =	the total number of shares of CIENA Common Stock allocated at the Effective Time to holders of Company Preferred Stock under Section 1.5(c)(i) only.

“Common Stock Equivalents” = the number of shares of Company Common Stock issuable upon exercise of all Company Options outstanding at the Effective Time (except for (a) Out of Money Options, (b) unvested Company Options held by Terminated Employees, (c) unvested Company Options held by Transitional Employees projected to be unvested as of the end of the applicable transitional period, and (d) those Company Options which expire on or prior to the Effective Time or by their terms will expire following the Effective Time without becoming exercisable due to vesting provisions) plus the number that would be issuable upon conversion of all Company Preferred Stock (excluding shares issuable upon conversion of the Company’s Series A Preferred Stock) outstanding or issuable upon exercise of Company Preferred Warrants, at the Effective Time.

All references in this Agreement to CIENA Common Stock to be received in accordance with the Merger shall be deemed to include the applicable Rights. After the Effective Time, all shares of Company Capital Stock shall no longer be outstanding and shall automatically be canceled and retired, and each holder of a certificate representing any such shares shall cease to have any rights with respect thereto other than (i) the right to receive shares of CIENA Common Stock to be issued in consideration therefor upon the surrender of such certificate, (ii) any dividends and other distributions in accordance with **Section 1.8(c)** and (iii) any cash, without interest, to be paid in lieu of any fractional share of CIENA Common Stock in accordance with **Section 1.9**.

SECTION 1.6. Adjustment of the Exchange Ratios.

In the event that, prior to the Effective Time, any stock split, combination, reclassification (whether by merger, reorganization or otherwise) or stock dividend (including but not limited to the issuance of CIENA Common Stock upon the exercise of rights by CIENA stockholders under the Rights Agreement) with respect to the CIENA Common Stock or Company Common Stock, any change or conversion of CIENA Common Stock or Company Common Stock into other securities or any other dividend or distribution with respect to the CIENA Common Stock or Company Common Stock should occur or, if a record date with respect to any of the foregoing should occur, appropriate and proportionate adjustments shall be made to the Exchange Ratios, and thereafter all references to the Exchange Ratios shall be deemed to be to such Exchange Ratios as so adjusted.

SECTION 1.7. Dissenting Shares.

(a) Notwithstanding any provision of this Agreement to the contrary, shares of Company Capital Stock that are outstanding immediately prior to the Effective Time and which are held by Stockholders who shall not have voted in favor of the Merger or consented thereto in writing and who shall have demanded properly in writing appraisal for such shares in accordance with Section 262 of the DGCL (collectively, the “Dissenting Shares”) shall not be converted into or represent the right to receive the consideration set forth in **Section 1.5**. Such Stockholders shall be entitled to receive such consideration as is determined to be due with respect to such Dissenting Shares in accordance with the provisions of Section 262, except that all Dissenting Shares held by Stockholders who shall have failed to perfect or who effectively shall have withdrawn or lost their rights to appraisal of such shares under Section 262 shall thereupon be deemed to have been converted into and to have become exchangeable for, as of the Effective Time, the right to receive the shares of CIENA Common Stock specified in **Section 1.5**, without any interest thereon, upon surrender, in the manner provided in **Section 1.8**, of the certificate or certificates that formerly evidenced by such Dissenting Shares less the number of shares of CIENA Common Stock allocable to such Stockholder that have been deposited in the Escrow Fund and the Reimbursement Fund in respect of Company Capital Stock pursuant to **Sections 1.8(b)** and **6.2**.

(b) The Company shall give CIENA (i) prompt notice of any demands for appraisal received by the Company, withdrawals of such demands, and any other instruments served pursuant to the DGCL and received by the Company, and (ii) except as set forth below, the opportunity to direct all negotiations and proceedings with respect to demands for appraisal under the DGCL. The Company shall not, except with the prior written consent of CIENA, make any payment or incur any expenses with respect to any demands for appraisal or offer to settle or settle any such demands. Notwithstanding the above, if CIENA reasonably determines that the expenses to be incurred in negotiating or resolving any demands for appraisal shall exceed \$500,000, then CIENA shall provide the Stockholders' Representative with the opportunity to direct all such negotiations and proceedings as though the same were a claim of the sort subject to **Section 6.5**.

SECTION 1.8. Exchange Procedures; Distributions with Respect to Unexchanged Shares; Stock Transfer Books.

(a) As of the Effective Time, CIENA shall deposit with the Exchange Agent for the benefit of the holders of shares of Company Capital Stock certificates representing shares of the CIENA Common Stock to be issued pursuant to **Section 1.5(c)** in exchange for the shares of Company Capital Stock less the Escrow Amount and the Reimbursement Amount (each as defined in **Section 1.8(b)**), together with cash in an amount sufficient to permit the payment of cash in lieu of fractional shares pursuant to **Section 1.9**. (Such shares of CIENA Common Stock, together with any dividends or distributions with respect thereto pursuant to **Sections 1.8(c)** and **1.9**, are referred to herein as the "Exchange Fund").

(b) As soon as practicable after the Effective Time, CIENA shall cause the Exchange Agent to send to each Person who was, at the Effective Time, a holder of record of certificates which represented outstanding Company Capital Stock (the "Certificates") which shares were converted into the right to receive CIENA Common Stock pursuant to **Section 1.5**, a letter of transmittal which (i) shall specify that delivery shall be effected and risk of loss and title to such Certificates shall pass, only upon actual delivery thereof to the Exchange Agent and (ii) shall contain instructions for use in effecting the surrender of the Certificates. Upon surrender to the Exchange Agent of Certificates for cancellation, together with such letter of transmittal duly executed, from and after the Effective Time, such holder shall be entitled to receive in exchange therefor (A) a certificate representing the number of whole shares of CIENA Common Stock into which the Company Capital Stock represented by the surrendered Certificate shall have been converted at the Effective Time (less such holder's pro rata portion of the number of shares of CIENA Common Stock to be deposited in the Escrow Fund and the Reimbursement Fund on such holder's behalf pursuant to **Section 6.2**), (B) cash in lieu of any fractional share of CIENA Common Stock in accordance with **Section 1.9** and (C) certain dividends and distributions in accordance with **Section 1.8(c)**, and the Certificates so surrendered shall then be canceled. Subject to **Section 1.8(c)** and **Section 1.9**, until surrendered as contemplated by this **Section 1.8(b)**, each Certificate, from and after the Effective Time, shall be deemed to represent only the right to receive, upon such surrender, the number of shares of CIENA Common Stock into which such Company Capital Stock shall have been converted. As soon as practicable after the Effective Time, and subject to and in accordance with the provisions of **Section 6.2**, CIENA, on behalf of the Stockholders, shall cause to be delivered to the Escrow Agent (as defined in **Section 6.2**) (x) certificates representing 10% of the shares of CIENA Common Stock that are allocable to Stockholders under **Section 1.5(c)** hereof in the Merger (the "Escrow Amount") and (y) certificates representing Forty Thousand Eight Hundred Three (40,803) shares of CIENA Common Stock that are allocable to Stockholders under **Section 1.5(c)** hereof in the Merger (the "Reimbursement Amount") which shall, in each case, be registered in the name of the Escrow Agent as nominee for the holders of Certificates canceled pursuant to this **Section 1.8**. Such shares shall be beneficially owned by such holders, shall be held in escrow and shall be available to settle certain contingencies as provided in the Escrow Agreement. To the extent not used for such purpose, such shares shall be released, as provided in the Escrow Agreement.

(c) No dividends or other distribution declared or made after the Effective Time with respect to the CIENA Common Stock with a record date after the Effective Time shall be paid to any holder entitled by

reason of the Merger to receive certificates representing CIENA Common Stock and no cash payment in lieu of a fractional share of CIENA Common Stock shall be paid to any such holder pursuant to **Section 1.9** until such holder shall have surrendered its Certificates pursuant to this **Section 1.8**. Subject to applicable law, following surrender of any such Certificate, such holder shall be paid, in each case, without interest, (i) the amount of any dividends or other distributions theretofore paid with respect to the shares of CIENA Common Stock represented by the certificate received by such holder and having a record date on or after the Effective Time and a payment date prior to such surrender and (ii) at the appropriate payment date or as promptly as practicable thereafter, the amount of any dividends or other distributions payable with respect to such shares of CIENA Common Stock and having a record date on or after the Effective Time but prior to such surrender and a payment date on or after such surrender.

(d) If any certificate representing shares of CIENA Common Stock or any cash is to be issued or paid to any Person other than the registered holder of the Certificate surrendered in exchange therefor, it shall be a condition to such exchange that such surrendered Certificate shall be properly endorsed and otherwise in proper form for transfer and such Person either (i) shall pay to the Exchange Agent any transfer or other taxes required as a result of the issuance of such certificates of CIENA Common Stock and the distribution of such cash payment to such Person or (ii) shall establish to the reasonable satisfaction of the Exchange Agent that such tax has been paid or is not applicable. CIENA or the Exchange Agent shall be entitled to deduct and withhold from the consideration otherwise payable pursuant to this Agreement to any holder of shares of Company Capital Stock such amounts as CIENA or the Exchange Agent is required to deduct and withhold with respect to the making of such payment under the Code, or any provision of state, local or foreign tax law. To the extent that amounts are so withheld by CIENA or the Exchange Agent, such withheld amounts shall be treated for all purposes of this Agreement as having been paid to the holder of the shares of Company Capital Stock in respect of which such deduction and withholding was made by CIENA or the Exchange Agent. All amounts in respect of taxes received or withheld by CIENA shall be disposed of by CIENA in accordance with the Code or such state, local or foreign tax law, as applicable.

(e) If any Certificate shall have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the Person claiming such Certificate to be lost, stolen or destroyed and payment of any surety premium fee as may be required by the Exchange Agent, the Surviving Company shall issue in exchange for such lost, stolen or destroyed Certificate the shares of CIENA Common Stock as determined under **Section 1.5(c)** and pay any cash, dividends and distributions as determined in accordance with **Section 1.8(c)** and **Section 1.9** in respect of such Certificate.

(f) At the close of business on the day on which the Effective Time occurs, the stock transfer books of the Company shall be closed and thereafter there shall be no further registration of transfers of shares of Company Capital Stock on the records of the Company. From and after the Effective Time, the holders of shares of Company Capital Stock outstanding immediately prior to the Effective Time shall cease to have any rights with respect to such shares except as otherwise provided herein or by applicable law.

SECTION 1.9. No Fractional Shares.

No certificates or scrip representing fractional shares of CIENA Common Stock shall be issued upon the surrender for exchange of Certificates and such a fractional share shall not entitle the record or beneficial owner thereof to vote or to any other rights as a stockholder of CIENA. In lieu of receiving any such fractional share, each holder of Company Capital Stock who would otherwise have been entitled thereto upon the surrender of Certificates for exchange will receive cash (without interest) in an amount rounded to the nearest whole cent, determined by multiplying (i) the per share closing price on NASDAQ of CIENA Common Stock on the date on which the Effective Time shall occur (or, if the CIENA Common Stock shall not trade on NASDAQ on such date, the first day of trading in CIENA Common Stock on NASDAQ thereafter), by (ii) the fractional share to which such holder would otherwise be entitled. CIENA shall make available to the Exchange Agent the cash necessary for this purpose.

SECTION 1.10. Return of Exchange Fund.

Any portion of the Exchange Fund which remains undistributed to the former holders of Company Capital Stock for six months after the Closing Date shall be delivered to CIENA, upon its request, and any such former holders who have not theretofore surrendered to the Exchange Agent their Certificates in compliance herewith shall thereafter look only to CIENA for payment of their claim for shares of CIENA Common Stock, any cash in lieu of fractional shares of CIENA Common Stock and any dividends or distributions with respect to such shares of CIENA Common Stock. Neither CIENA nor the Company shall be liable to any former holder of Company Capital Stock for any cash or shares of CIENA Common Stock held in the Exchange Fund (and any cash, dividends and distributions payable in respect thereof) which is delivered to a public official pursuant to an official request under any applicable abandoned property, escheat or similar law.

SECTION 1.11. No Further Ownership Rights in Company Capital Stock.

All shares of CIENA Common Stock delivered upon the surrender for exchange of any Certificate in accordance with the terms hereof (including any cash paid pursuant to **Section 1.9**) shall be deemed to have been delivered (and paid) in full satisfaction of all ownership rights pertaining to the Company Capital Stock previously represented by such Certificate.

SECTION 1.12. Further Assurances.

If at any time after the Effective Time the Surviving Company shall consider or be advised that any deeds, bills of sale, assignments or assurances or any other acts or things are necessary, desirable or proper (a) to vest, perfect or confirm, of record or otherwise, in the Surviving Company, its right, title or interest in, to or under any of the rights, privileges, powers, franchises, properties or Assets of the Company or (b) otherwise to carry out the purposes of this Agreement, the Surviving Company and its proper officers and directors or their designees shall be authorized to execute and deliver, in the name and on behalf of the Company, all such deeds, bills of sale, assignments and assurances and do, in the name and on behalf of the Company, all such other acts and things necessary, desirable or proper to vest, perfect or confirm its right, title or interest in, to or under any of the rights, privileges, powers, franchises, properties or Assets of the Company and otherwise to carry out the purposes of this Agreement.

ARTICLE II

**REPRESENTATIONS AND WARRANTIES OF THE COMPANY AND
THE PRINCIPAL OFFICERS**

The Company and each Principal Officer hereby represents and warrants to CIENA as follows (provided that the Principal Officers represent only as to the matters set forth herein to the extent of their Knowledge only):

SECTION 2.1. Organization and Qualification.

The Company is a corporation duly organized, validly existing and in good standing under the laws of Delaware. The Company has the requisite power and authority to carry on its business as now being conducted and to perform the terms of this Agreement and the transactions contemplated hereby. The Company is duly authorized or qualified to conduct its business in each jurisdiction in which the ownership or leasing of its Assets or the nature of its activities in connection with the conduct of its business makes such qualification necessary except for those jurisdictions where the failure to be so qualified and in good standing would not have a Company Material Adverse Effect. The Company has no Subsidiaries or any equity interest in any Person.

SECTION 2.2. Certificate of Incorporation and Bylaws.

The Company has heretofore delivered to CIENA a complete and correct copy of its Certificate of Incorporation (the “Company Certificate”) and the bylaws of the Company, each as amended to date, and a copy of the Company’s Certificate of Amendment to the Fifth Amended and Restated Certificate of Incorporation of the Company to be filed as soon as reasonably practicable following the date of this Agreement (the “Company Charter Amendment”). Such Company Certificate and bylaws are in full force and effect. The Company is not in violation of any of the provisions of the Company Certificate or its bylaws.

SECTION 2.3. Capitalization.

The authorized capital stock of the Company on the date hereof consists of 90,000,000 shares of common stock, \$0.001 par value per share, of which 485,141 shares are issued and outstanding, and 61,142,495 shares of preferred stock, par value \$0.01 per share, of which 783,333 shares are designated Series A Preferred Stock, all of which are issued and outstanding, 1,200,000 are designated Series B Preferred Stock, 1,199,999 of which are issued and outstanding, 2,464,162 are designated Series C Preferred Stock, 2,395,435 of which are issued and outstanding, 31,495,000 are designated Series D Preferred Stock, 30,999,994 of which are issued and outstanding, and 25,200,000 are designated Series E Preferred Stock, 8,250,000 of which are issued and outstanding. All of the issued and outstanding shares of Company Preferred Stock and Company Common Stock are owned of record by the Stockholders of the Company shown on **Schedule 2.3** hereto. The Company has not granted any options, warrants or other rights that are currently outstanding, or entered into any agreements, arrangements or commitments of any character relating to the issued or unissued capital stock of the Company, or obligating the Company to issue or sell any shares of capital stock of, or other equity interests in the Company that are currently in effect, including any securities directly or indirectly convertible into or exercisable or exchangeable for any capital stock or other equity securities of the Company, except that as of the date of this Agreement, there were (i) 14,135,938 shares of Company Common Stock reserved for issuance pursuant to options outstanding under the Company’s 2000 Corporate Stock Option Plan (the “Company Stock Plan”) and (ii) shares of Company Capital Stock reserved for issuance pursuant to outstanding warrants shown on **Schedule 2.3(a)** hereto. Except as set forth on **Schedule 2.3(b)**, the Company does not have outstanding any bonds, debentures, notes or other obligations the holders of which have the right to vote (or convertible into or exercisable for securities having the right to vote) with the Stockholders of the Company on any matter. Except as set forth on **Schedule 2.3(b)**, there are no outstanding obligations or rights of the Company to repurchase, redeem or otherwise acquire any shares of its capital stock or make any investment (in the form of a loan, capital contribution or otherwise) in any other Person except in accordance with the Company Certificate. All of the issued and outstanding shares of the Company Capital Stock have been duly authorized and validly issued in accordance with applicable laws and are fully paid and non-assessable and not subject to preemptive rights. Except as set forth above or on **Schedule 2.3(c)**, no shares of capital stock of the Company are reserved for any purpose. **Schedule 2.3(d)** contains a list which is complete and accurate in all respects as of the date hereof, of each outstanding option, warrant or other stock based award to purchase or acquire shares under the Company Stock Plan (the “Company Options”) or otherwise, including whether or not the grant was made under the Company Stock Plan, the holder, date of grant, exercise price, whether the option contains an associated stock appreciation right, vesting and acceleration provisions and numbers of shares subject thereto.

SECTION 2.4. Authority.

(a) The execution and delivery of this Agreement by the Company and the consummation by the Company of the transactions contemplated hereby, including, without limitation, the filing of the Company Charter Amendment, have been duly and validly authorized by all necessary corporate action and no other corporate proceedings on the part of the Company are necessary to authorize this Agreement or to consummate the transactions contemplated hereby, except that approval of the Merger and the Company Charter Amendment require (i) approval by holders of a majority of the shares of the Company Common

Stock; (ii) approval by holders of a majority of the shares of the Company Common Stock and the Company Preferred Stock, voting as a single class on an as converted to Company Common Stock basis, and (iii) approval by the holders of not less than 64% of the then outstanding Company Preferred Stock, voting as a separate class on an as converted to Company Common Stock basis (the "Company Requisite Stockholder Approval"). Assuming due authorization, execution and delivery by CIENA, this Agreement constitutes, a legal, valid and binding obligation of the Company, enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws of general applicability relating to or affecting creditors' rights generally and by the application of general principles of equity.

(b) The Board of Directors of the Company has duly and unanimously approved this Agreement and the Merger and the other transactions contemplated hereby to which the Company is a party, and has recommended adoption thereof by the Stockholders.

SECTION 2.5. No Conflict; Required Filings and Consents.

(a) Except as set forth on **Schedule 2.5(a)**, the execution and delivery of this Agreement by the Company does not, and the performance by the Company of its obligations under this Agreement will not, (i) conflict with or violate the Company Certificate or the bylaws of the Company, (ii) conflict with or violate any Law applicable to the Company, or (iii) result in any breach of or constitute a default (or an event which with notice or lapse of time or both would become a default) under any note, bond, mortgage, indenture, contract, agreement, lease, license, permit, franchise or other instrument or obligation to which it is subject, except with respect to (ii) or (iii) above, for those instances which would not delay or affect the terms of the transactions contemplated hereby or would otherwise not reasonably be expected to have a Company Material Adverse Effect.

(b) Except as set forth in **Schedule 2.5(b)**, the execution and delivery of this Agreement by the Company does not, and the performance of this Agreement by the Company will not, require any consent, approval, authorization or permit of, or filing with or notification to, any Governmental Entity by the Company, except for (i) the filing of a Certificate of Merger under the DGCL, (ii) filings under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended (the "Hart-Scott-Rodino Act"), and (iii) state securities law filings.

(c) All consents and waivers required from any person in order to (i) carry out the transactions contemplated hereby under any contract, lease or agreement to which the Company is a party, or (ii) to assign such contract, lease or agreement to CIENA, are set forth on **Schedule 2.5(c)**, except for licenses of Widely Available Software.

SECTION 2.6. Financial Statements.

Attached hereto as **Schedule 2.6** are the audited balance sheets of the Company as of December 31, 2001, 2002 and 2003 and the audited statements of operations and cash flows for such periods (collectively, the "Financial Statements"). The audited financial statements referred to in this **Section 2.6** present fairly, in all material respects, the financial condition of the Company as of the respective dates and the results of operations and cash flows for the respective periods indicated and have been prepared in accordance with generally accepted accounting principles ("GAAP") applied on a consistent basis. Except as set forth on **Schedule 2.6**, the Financial Statements are accompanied by unqualified audit reports of Deloitte & Touche LLP. Except as reflected in the most recent balance sheet of the Company contained in the Financial Statements, as of December 31, 2003 (the "Balance Sheet Date"), the Company had no liabilities, contingent or absolute, matured or unmatured, known or unknown, and knows of no basis for such liabilities, except for liabilities (a) not required under GAAP applied on a consistent basis with that of the preceding accounting periods to be reported on such Financial Statements, and (b) incurred in the Ordinary Course of Business.

SECTION 2.7. Absence of Certain Changes or Events.

(a) Since the Balance Sheet Date, there has been no event or set of circumstances that resulted in or is reasonably likely to result in a Company Material Adverse Effect. Except as set forth on **Schedule 2.7(a)**, since the Balance Sheet Date, the Company has conducted its business in the Ordinary Course of Business, and has not (i) paid any dividend or distribution in respect of, or redeemed or repurchased any of, its capital stock other than the Company's repurchase of shares, at the original purchase price paid per share, from terminated employees or consultants in amounts and from persons described in **Schedule 2.7(a)**; (ii) incurred loss of, or significant injury to, any of the material Assets, whether as the result of any natural disaster, labor trouble, accident, other casualty, or otherwise; (iii) incurred, or become subject to, any material liability (absolute or contingent, matured or unmatured), and knows of no basis for such liabilities, except current liabilities incurred in the Ordinary Course of Business; (iv) mortgaged, pledged or subjected to any Encumbrance any of the Assets; (v) sold, exchanged, transferred or otherwise disposed of any material Assets except in the Ordinary Course of Business, or canceled any debts or claims; (vi) written down the value of any Assets or written off as uncollectible any accounts receivable, except write downs and write-offs in the Ordinary Course of Business, none of which, individually or in the aggregate, could reasonably be expected to have a Company Material Adverse Effect; (vii) entered into any transactions, other than in the Ordinary Course of Business; (viii) made any change in any method of accounting or accounting practice; or (ix) made any agreement to do any of the foregoing, other than negotiations with CIENA and its representatives regarding the transactions contemplated by this Agreement.

(b) Since the Balance Sheet Date, except as set forth on **Schedule 2.7(b)**, there has not been: (i) any damage, destruction or loss (whether or not covered by insurance) or any other event negatively affecting the business or Assets of the Company except for those which could not reasonably be expected to have a Company Material Adverse Effect; (ii) any forgiveness or cancellation of debts or claims owed to the Company, except for immaterial compromises of accounts receivable in the Ordinary Course of Business; (iii) any increase in the compensation or benefits payable or to become payable by the Company to any of the directors, officers, consultants or employees of the Company, other than salary increases in connection with customary performance reviews and customary bonuses consistent with past practices, the terms and amounts of which are set forth on **Schedule 2.7(b)**; (iv) any discharge or satisfaction of any Lien or payment of any liability or obligation by the Company other than current liabilities in the Ordinary Course of Business; or (v) any agreement to do any of the foregoing, other than negotiations with CIENA and its representatives regarding the transactions contemplated by this Agreement.

SECTION 2.8. Ownership and Condition of the Assets.

Except as set forth on **Schedule 2.8**, the Company is the sole and exclusive legal and equitable owner of and has good and marketable title to the Assets it purports to own and such Assets are free and clear of all Encumbrances other than Permitted Encumbrances. No person or Governmental Entity has an option to purchase, right of first refusal or other similar right with respect to all or any part of such Assets other than in the Ordinary Course of Business. All of the personal property of the Company is in good working order and repair, ordinary wear and tear excepted, and is suitable and adequate for the uses for which it is intended or is being used except for instances which could not reasonably be expected to have a Company Material Adverse Effect.

SECTION 2.9. Leases.

Schedule 2.9 lists all leases and other agreements under which the Company is lessee or lessor of any Asset, or holds, manages or operates any Asset owned by any third party, or under which any Asset owned by the Company is held, operated or managed by a third party. The Company is the holder of all the leasehold estates purported to be granted to such entity by the leases listed in **Schedule 2.9** and is the owner of all equipment, machinery and other Assets purported to be owned by the Company thereon, free and clear of all Encumbrances other than Permitted Encumbrances. Each such lease and other agreement is in full force and effect and constitutes a legal, valid and binding obligation of, and is legally enforceable

against, the Company, and, to the Company's Knowledge, the other parties thereto (except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws of general applicability relating to or affecting creditors' rights generally and by the application of general principles of equity) and (to the Company's Knowledge in such cases where the Company is the lessee under such lease or agreement) grants the leasehold estate it purports to grant free and clear of all Encumbrances other than Permitted Encumbrances. All necessary governmental approvals required to be obtained by the Company with respect thereto have been obtained, all necessary filings or registrations therefor have been made, and to the Company's Knowledge, there have been no threatened cancellations thereof and are no outstanding disputes thereunder. The Company has performed in all material respects all obligations thereunder required to be performed by such entity to date. The Company is not in default in any material respect under any of the foregoing and to the Company's Knowledge, no other party is in default in any material respect under any of the foregoing, and there has not occurred any event which (whether with or without notice, lapse of time or the happening or occurrence of any other event) would, constitute a default on the part of the Company, or to the Company's Knowledge, a party other than the Company.

SECTION 2.10. Other Agreements.

(a) **Schedule 2.10(a)** is an accurate list of all material contracts and agreements to which the Company is a party, or which it or any of its property is bound, (including, without limitation, joint venture agreements, employment contracts, loan agreements, bonds, mortgages, liens, pledges or other security agreements) used in connection with, or relating to the conduct of the business of the Company (the "Contracts").

(b) Except as set forth on **Schedule 2.10(b)** (and without limiting the foregoing), with respect to the conduct of the business of the Company and ownership of the Assets, the Company is not:

- (1) a party to any contract, purchase or sales orders, or commitment that involves a dollar amount in excess of \$100,000 or extends for a period of twelve months or more;
- (2) a party to any employment contracts with employees, agents or consultants, other than at-will employment agreements where total compensation is less than \$100,000 per year;
- (3) a party to any contract with sales or other agents, brokers, franchisees, distributors or dealers;
- (4) a party to any partnership or joint venture agreement;
- (5) a party to any lease or other occupancy or use agreements, oral or written, nor has the Company granted any options, rights of first refusal or security or other interests other than Permitted Encumbrances in or relating to the Assets or the business of the Company;
- (6) a party to any agreements giving any party the right to renegotiate or require a reduction in price or refund of payments previously made in connection with the business of the Company;
- (7) a party to any agreements for the borrowing or lending of money with respect to the business of the Company and is not a party to any guaranty agreement;
- (8) a party to any agreements that contain any provisions requiring the Company to indemnify any other party thereto other than agreements entered into in the Ordinary Course of Business which could not reasonably be expected to have a Company Material Adverse Effect;
- (9) a party to any agreement for the sale of goods or services to any Governmental Entity;
- (10) a party to any agreement granting any Person a Lien on any of the Assets other than Permitted Encumbrances;

(11) a party to any agreement under which the Company licenses or transfers any rights to any Company intellectual property rights or under which the Company licenses any intellectual property rights of others except for licenses of Widely Available Software;

(12) a party to any joint venture, co-development, corporate partnering or similar agreement involving the development, marketing or sale of goods or services;

(13) a party to any severance, bonus, executive or deferred compensation, profit sharing, pension or retirement, stock option or stock purchase, hospitalization, insurance, medical reimbursement or other plan, agreement or arrangement or practice providing employee or executive benefits to any officer or employee or former officer or former employee; and

(14) a party to or bound by any non-competition, secrecy or confidentiality agreement relating to the business of the Company or the Assets or any other contract restricting its right to conduct the business the Company at any time, in any manner or at any place in the world, or the expansion thereof to other geographical areas, customers, suppliers or lines of business.

(c) A true and correct copy of each Contract has been made available to CIENA prior to the date hereof. Each Contract is now valid, in full force and effect and enforceable against the Company, and to the Company's Knowledge, the other parties thereto, in accordance with its terms (except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws of general applicability relating to or affecting creditors' rights generally and by the application of general principles of equity). Except as set forth on **Schedule 2.10(c)**, the Company has not breached or improperly terminated any such Contract, the effect of which would reasonably be expected to have a Company Material Adverse Effect, and neither the Company nor, to the Knowledge of the Company, any third party is in default under any such Contract, the effect of which would have a Company Material Adverse Effect. To the Company's Knowledge, there exists no condition or event that, after notice or lapse of time or both, would constitute any such breach, termination or default. Except as set forth on **Schedule 2.10**, to the Company's Knowledge, there is no bid or contract proposal made by the Company that, if accepted and entered into, is likely to result in a loss to the Company.

SECTION 2.11. Real Property.

Schedule 2.11 contains a list of all leasehold interests in real estate, easements, rights to access, rights-of-way and other real property interests which are owned, or are leased, used or held for use by the Company (collectively, the "Real Property"). The Real Property listed in **Schedule 2.11** constitutes all real property interests necessary to conduct the business and operations of the Company as now conducted. To the Company's Knowledge, there are no easements or other real property interests, other than those listed in **Schedule 2.11**, that are required, or that have been asserted by a Governmental Entity to be required, to conduct the business and operations of the Company. The Company has made available to CIENA true and complete copies of all deeds, leases, easements, rights-of-way and other instruments pertaining to the Real Property (including any and all amendments and other modifications of such instruments). All Real Property (including the improvements thereon) (i) is in good condition and repair other than conditions that do not adversely affect its use by the Company and consistent with its present use, (ii) is available to the Company for immediate use in the conduct of its business and operations, and (iii) to the Knowledge of the Company complies in all material respects with all applicable building or zoning codes and in the regulations of any Governmental Entity having jurisdiction.

SECTION 2.12. Environmental Matters.

(a) The Company has complied in all material respects with all Environmental Laws. There are no pending or, to the Knowledge of the Company, threatened actions, suits, claims, legal proceedings or other proceedings against the Company based on any Environmental Laws, and the Company has not received any written notice, or, to the Knowledge of the Company, other notice of any complaint, order, directive, citation, warrant, notice of violation, notice of responsibility, notice of potential responsibility, or information request from any Governmental Entity or any other person arising out of or attributable to:

(i) the current or past presence at any part of the Real Property of Hazardous Materials (as defined below) or any substances that pose a hazard, a harm or threatened harm to human health, the environment or an impediment to working conditions; (ii) the current or past release or threatened release into the environment from the Real Property (including, without limitation, into any storm drain, sewer, septic system or publicly owned treatment works) or arising from the Company's activities of any Hazardous Materials or any substances that pose a hazard, a harm or threatened harm to human health, the environment or an impediment to working conditions; (iii) the off-site disposal of Hazardous Materials originating on or from the Real Property or arising from the Company's activities; (iv) any facility operations or procedures of the Company which do not conform to requirements of the Environmental Laws; or (v) any violation of Environmental Laws at any part of the Real Property or otherwise arising from the Company's activities involving Hazardous Materials.

(b) The Company has been duly issued, and currently has all material permits, licenses, certificates and approvals required to be maintained by the Company under any Environmental Law with respect to the use of the Real Property by the Company and to conduct its activities. A true and complete list of such permits, licenses, certificates and approvals, all of which are valid and in full force and effect, is set out in **Schedule 2.12**. Except in accordance with such permits, licenses, certificates and approvals, there has been no discharge of any Hazardous Materials or any other material or substances regulated by such permits, licenses, certificates or approvals.

(c) To the Knowledge of the Company, none of the Real Property contains any underground or aboveground storage tanks, or underground or aboveground piping associated with such tanks, used currently or in the past for Hazardous Materials.

SECTION 2.13. Litigation.

Except as set forth on **Schedule 2.13**, the Company is not involved in any pending action, suit, investigation, claim, arbitration or litigation and, to the Knowledge of the Company, no such matter is threatened against or involving the Company or the Assets, at law or in equity, or before or by any court, arbitrator or Governmental Entity. The Company is not operating under, or subject to, any judgment, writ, order, injunction, award or decree of any court, judge, justice or magistrate, including any bankruptcy court or judge, or any order of or by any Governmental Entity. No property or Assets of the Company has been taken or expropriated by any federal, state, municipal or other Governmental Entity nor has any notice or proceeding with respect to thereof been given or commenced, nor, to the Company's Knowledge, is there any intent or proposal by any Governmental Entity to give any such notice or commence any such proceeding.

SECTION 2.14. Compliance with Laws.

The Company is in compliance in all respects with all Laws applicable to the Assets and its business and operations, including all Laws applicable to the Company's relationship with its employees except where noncompliance would not be reasonably expected to have a Company Material Adverse Effect.

SECTION 2.15. Intellectual Property.

(a) Except as set forth on **Schedule 2.15(a)**, the Company has all right, title, interest and license rights necessary to use all intellectual property used in the business of the Company as presently conducted and, to the Company's Knowledge, has the right, title, interest and license rights to use all intellectual property that is currently anticipated by the Company to be required to carry out the Company's product development and marketing plans through at least the next 6 months (the "Intellectual Property Rights"). Except as set forth on **Schedule 2.15(a)**, there are no claims or demands against the Company by any other Person pertaining to any of such Intellectual Property Rights and no proceedings have been instituted, or are pending or to the Knowledge of the Company, threatened, which challenge the rights of the Company in respect thereof. Except as set forth on **Schedule 2.15(a)**, the Company has the right to use, without infringing the rights of others, all customer lists, designs, manufacturing or other

processes, computer software, systems, data compilations, research results and other information required for or incident to its products or its business as presently conducted.

(b) **Schedule 2.15(b)** lists all patents, patent applications, registered trademarks, trademark applications and registrations and registered copyrights owned or licensed by or registered in the name of the Company or used by the Company in its business as presently conducted (other than registered copyrights in Widely Available Software (as defined below)). All of such patents, patent applications, registered trademarks, trademark applications and registrations and registered copyrights that are owned by the Company and, to the Company's Knowledge, all of such patents, patent applications, registered trademarks, trademark applications and registrations and registered copyrights that are licensed to the Company: (i) have been duly registered in, filed in or issued by the United States Patent and Trademark Office, the United States Register of Copyrights, or the corresponding offices of other jurisdictions as identified on **Schedule 2.15(b)**, and (ii) have been properly maintained and renewed in accordance with all applicable provisions of law and administrative regulations in the United States and each such jurisdiction except as set forth on **Schedule 2.15(b)**.

(c) All licenses or other agreements under which the Company is granted rights in Intellectual Property Rights are listed on **Schedule 2.15(c)** except for licenses of widely available "shrink-wrap," "click-wrap", freeware, open source or similarly licensed software (the foregoing being referred to collectively herein as "Widely Available Software"). All such licenses or other Agreements are in full force and effect, there is no material default by the Company or, to the Company's Knowledge, any party thereto. To the Knowledge of the Company, the licensors under such licenses and other agreements have and had all requisite power and authority to grant the rights purported to be conferred thereby. True and complete copies of all such licenses or other Agreements, and any amendments thereto, have been furnished to CIENA.

(d) All licenses or other agreements under which the Company has granted rights to others in Intellectual Property Rights owned or licensed by the Company are listed on **Schedule 2.15(d)** except for licenses of Widely Available Software. All of such licenses or other agreements are in full force and effect, there is no material default by the Company, or to the Company's Knowledge, by any party thereto. True and complete copies of all such licenses or other agreements, and any amendments thereto, have been furnished to CIENA.

(e) The Company has taken all reasonable steps it believes to be required in accordance with sound business practice to establish and preserve its ownership of all material copyright, trade secret and other proprietary rights with respect to its products and technology. The Company has required all professional and technical employees and independent contractors having access to valuable non-public information of the Company to execute agreements under which such persons are required to maintain the confidentiality of such information and appropriately restricting the use thereof. The Company does not have Knowledge of any infringement by others of any Intellectual Property Rights of the Company.

(f) To the Knowledge of the Company, except as set forth on **Schedule 2.15(f)**, the present business, activities and products of the Company do not infringe any Intellectual Property Rights of any other Person. No proceeding charging the Company with infringement of any Intellectual Property Rights has been filed or, to the Knowledge of the Company, is threatened or likely to be filed. Except as set forth on **Schedule 2.15(f)**, to the Knowledge of the Company, there exists no unexpired patent or patent application that includes claims that would be infringed by the products, activities or business of the Company. To the Knowledge of the Company, the Company is not making any unauthorized use of any confidential information or trade secrets of any Person, including without limitation, any customer of the Company, or any past or present employee of the Company. Except for customer contracts in the Ordinary Course of Business and confidentiality agreements by Employees with former employers, neither the Company nor, to the Knowledge of the Company, any of its employees have any agreements or arrangements with any Persons other than the Company related to confidential information or trade secrets of such Persons or restricting any such employee's engagement in business activities of any nature. The

activities of its employees on behalf of the Company do not violate any such agreements or arrangements known to the Company that would reasonably be expected to have a Material Adverse Effect.

(g) To the Knowledge of the Company, none of the current officers and employees of the Company has any issued patent or patent application pending for any device, process, design or invention of any kind used (currently or in the 12 months prior to the date hereof) by the Company, or is intended to be used by the Company or its successor in the future, which patent or patent application has not been assigned to the Company, with such assignment duly recorded in the patent office of the relevant jurisdiction. Binding, written assignments to the Company have been executed by all inventors for those patents and patent applications set forth on **Schedule 2.15(b)**.

SECTION 2.16. Taxes and Assessments.

Except as set forth on **Schedule 2.16**, the Company has (i) duly and timely paid all Taxes which have become due and payable by it, and there are no agreements, waivers or other arrangements providing for an extension of time with respect to the filing of any Tax Return or the payment of any Tax; (ii) received no written notice of, nor does the Company have any Knowledge of, any notice of deficiency or assessment or proposed deficiency or assessment from any taxing Governmental Entity; (iii) no Knowledge of any audits pending and there are no outstanding agreements or waivers by the Company that extend the statutory period of limitations applicable to any federal, state, local, or foreign tax returns or Taxes; and (iv) not entered into any discussions with any federal, state, local, or foreign authority with respect to any Tax asserted by such authority but not yet paid by the Company. Since the inception of the Company, the Tax Returns of the Company have never been audited by federal, state, local, or foreign authorities. There are no Liens for Taxes (other than Taxes not yet due and payable) on any property of the Company. The Company has withheld from each payment made to any of its past or present employees, officers or directors, and to any non-residents, the amount of Taxes and other deductions required to be withheld therefrom and have paid the same (or set aside for timely payment) to the proper Tax or other receiving officers within the time required under applicable Laws. The provision for Taxes of the Company, if any, as shown in the Financial Statements is adequate for Taxes due or accrued as of the date thereof.

SECTION 2.17. Employment and Benefit Matters.

(a) **Pension and Benefit Plans and Other Arrangements.** **Schedule 2.17(a)** lists each employee benefit plan, program, arrangement and contract (including, without limitation, any “employee benefit plan” as defined by Section 3(3) of ERISA), applicable to employees or former employees of the Company to which it has contributed or under which it has any material liability (collectively, the “Company Benefit Plans”). The Company has made available to CIENA, to the extent they exist, a true and correct copy of (i) the most recent annual report (Form 5500 series) filed with the Internal Revenue Service (the “IRS”) with respect to each Company Benefit Plan or similar report of the jurisdiction in which such employee benefit plan is located, (ii) each such Company Benefit Plan document and any amendments thereto, (iii) each trust agreement or other funding vehicle relating to each such Company Benefit Plan, (iv) the most recent summary plan description for each Company Benefit Plan for which a summary plan description is required, and (v) the most recent determination letter, if applicable, or opinion issued by the IRS with respect to any Company Benefit Plan qualified under Section 401(a) of the Code or similar report of the jurisdiction in which such employee benefit plan is located.

(b) **Compliance.** The Company has complied in all material respects with the terms of the Company Benefit Plans and all applicable provisions of the Code, ERISA, and all other applicable Laws pertaining to the Company Benefit Plans. The Company has no liability for any delinquent contributions within the meaning of Section 515 of ERISA (including, without limitation, related attorneys’ fees, costs, liquidated damages and interest) or for any arrearages of wages. The Company has no pending unfair labor practice charges, contract grievances under any collective bargaining agreement, other administrative charges, claims, grievances or lawsuits before any court, governmental agency, regulatory body, or arbiter

arising under any Law governing any Company Benefit Plan, and, to the Knowledge of the Company, there exist no facts that could reasonably be expected to give rise to such a claim.

(c) Collective Bargaining Agreements. There are no collective bargaining agreements applicable to the Company's employees and the Company has no duty to bargain with any labor organization with respect to any such persons. There is no pending demand for recognition or any other request or demand from a labor organization for representative status with respect to any persons employed by the Company.

(d) Employee Information. The Company has made available to CIENA a list of the names, positions and rates of compensation of all officers, directors, employees and consultants of the Company, as of the date hereof, showing each such person's name, positions, and annual remuneration, bonuses, accrued vacation, material fringe benefits and any severance or change of control agreement in place for the current fiscal year and the most recently completed fiscal year. With respect to any persons employed by the Company, the Company is in material compliance with all Laws respecting employment conditions and practices, has withheld all amounts required by any applicable Laws to be withheld and paid from wages, and the Company does not have any liability for any Taxes or penalties for failure to comply with any of the foregoing.

(e) Employment Practices. Except as set forth on **Schedule 2.17(e)**, with respect to any persons employed by the Company, (i) the Company has not engaged in any unfair labor practice within the meaning of the National Labor Relations Act and has not violated any legal requirement prohibiting discrimination on the basis of race, color, national origin, sex, religion, age, marital status, or handicap in its employment conditions or practices; and (ii) there are no pending or, to the Knowledge of the Company, threatened unfair labor practice charges or discrimination complaints relating to race, color, national origin, sex, religion, age, marital status, or handicap against the Company before any Governmental Entity nor, to the Knowledge of the Company, does any basis therefor exist.

(f) Contributions to the Company Benefit Plans. All contributions to, and payments from, each Company Benefit Plan which may have been required to be made in accordance with the terms of such plan, and, where applicable, the laws of the jurisdiction which govern such plan, have been made in a timely manner, and all material reports, returns and similar documents (including applications for approval of contributions) with respect to any Company Benefit Plan required to be filed with any Governmental Entity or distributed to any participant of such plan have been duly filed on a timely basis or properly distributed. No Company Benefit Plan is subject to Title IV of ERISA.

(g) Immigration Laws. The Company has complied, in all material respects, with all Laws governing the employment of personnel by U.S. companies and the employment of non-U.S. nationals in the United States, including, but not limited to, the Immigration and Nationality Act 8 U.S.C. Sections 1101 et seq. and its implementing regulations.

(h) Parachute Payments. Except as set forth on **Schedule 2.17(h)**, no amount required to be paid or payable to or with respect to any employee or other service provider of the Company in connection with the transactions contemplated hereby (either solely as a result thereof or as a result of such transactions in conjunction with any other event) will be an "excess parachute payment" within the meaning of Section 280G of the Code. **Schedule 2.17(h)** sets forth the name of each such employee or other service provider, any payments that may be classified as "parachute payments" and the agreements pursuant to which such payments may be made. No employee or other service provider of the Company is entitled to, or shall become entitled to, in connection with the transactions contemplated hereby, a tax gross-up payment from the Company with regard to "parachute payments" under Section 280G of the Code.

(i) COBRA. **Schedule 2.17(i)** sets forth a list of all persons who are current qualified beneficiaries (as defined in Section 4980B of the Code) as of the date hereof.

SECTION 2.18. Transactions with Related Parties.

Except (i) for standard confidentiality, assignment of invention and non-competition agreements, and stock option awards and restricted stock grants and awards on standard forms under the Company Stock

Plan, (ii) as set forth on **Schedule 2.18** and (iii) for any transactions between the Company and CIENA, neither any present or former officer, director, stockholder of the Company or person known by the Company to be an Affiliate of any of them, is currently a party to any transaction or agreement with the Company, including, without limitation, any loan, extension of credit or arrangement for the extension of credit, any agreement providing for the employment of, furnishing of services by, rental of Assets from or to, or otherwise requiring payments to, any such officer, director, stockholder or Affiliate.

SECTION 2.19. Insurance and List of Claims.

Schedule 2.19 contains a list of all policies of title, property, fire, casualty, liability, life, workmen's compensation, libel and slander, and other forms of insurance of any kind relating to the business and operations of the Company in each case which are in full force and effect as of the date hereof. The Company has made available to CIENA true and correct copies of all such policies. All such policies: (a) are sufficient for compliance by the Company with all requirements of applicable Law and of all licenses, franchises and other agreements to which the Company is a party, except for instances in which non-compliance could not reasonably be expected to have a Company Material Adverse Effect and (b) are valid, outstanding, and enforceable policies. All premiums due and payable on all such policies have been paid. A true and complete list of all claims made since January 1, 2001 under any of the policies (or their predecessors) listed on **Schedule 2.19** is included on **Schedule 2.19**.

SECTION 2.20. Brokers and Transaction Fees.

Except for arrangements with Credit Suisse First Boston that are fully described in the engagement letter set forth on **Schedule 2.20**, no broker, finder, investment banker or other person is entitled to any brokerage, finder's or other fee or commission of any kind in connection with the transactions contemplated by this Agreement based upon arrangements made by or on behalf of any of the Company or any of its Affiliates.

SECTION 2.21. Disclosure.

True and complete copies of all documents listed in the Schedules have been made available or provided to CIENA. The books of account, stock record books and other financial and corporate records of the Company, including the minute books of the Company's Stockholders and Board of Directors, all of which have been made available to CIENA, are complete and correct in all material respects and have been maintained in accordance with good business practices, including the maintenance of an adequate system of internal accounting controls (as compared to similarly situated non-public companies), and such book and records are accurately reflected in the Financial Statements.

SECTION 2.22. Absence of Violation.

To the Knowledge of the Company, neither the Company, nor any of its officers, directors, employees or agents (or stockholders, distributors, representatives or other persons acting on the express, implied or apparent authority of any of the Company) has paid, given or received or have offered or promised to pay, give or receive, any bribe or other unlawful payment of money or other thing of value, any extraordinary discount, or any other unlawful inducement, to or from any person, business association or governmental official or entity in the United States or elsewhere in connection with or in furtherance of the business of the Company (including, without limitation, any unlawful offer, payment or promise to pay money or other thing of value (i) to any foreign official or political party (or official thereof) for the purposes of influencing any act, decision or omission in order to assist the Company in obtaining business for or with, or directing business to, any person, or (ii) to any person, while knowing that all or a portion of such money or other thing of value will be offered, given or promised to any such official or party for such purposes). To the Knowledge of the Company, the business of the Company is not in any manner dependent upon the making or receipt of such unlawful payments, discounts or other inducements.

SECTION 2.23. Customers and Suppliers.

Except as set forth on **Schedule 2.23**, the Company does not have Knowledge of (i) any termination or cancellation of (or any intent to terminate or cancel) the business relationship of the Company with (y) any single customer or any group of affiliated customers who represented five percent (5%) or more of the revenues or potential revenues of the business of the Company during the fiscal year ended December 31, 2003, or (z) any single supplier or any group of affiliated suppliers who accounted for five percent (5%) or more of the amounts payable to suppliers of the Company incurred during the fiscal year ended December 31, 2003, or (ii) any existing condition, state of facts or circumstances that in the reasonable judgment of the Company will cause the Company or any of its customers to terminate their relationships. To the Knowledge of the Company, none of the business or prospective business of the Company is in any manner dependent upon the making or receipt of any payments, discounts or other inducements to any officers, directors, employees, representatives or agents of any customer.

SECTION 2.24. Information Supplied.

The information provided by the Company and the Principal Officers to CIENA in writing specifically for use in the Prospectus (as defined below) does not and will not contain any untrue statements of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements contained therein not misleading.

ARTICLE III

REPRESENTATIONS AND WARRANTIES OF CIENA

CIENA represents and warrants to the Company as follows:

SECTION 3.1. Organization and Qualification.

CIENA is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware. CIENA has the requisite power and authority to own, lease and operate its Assets and properties, to carry on its business as now being conducted and to perform the terms of this Agreement and the transactions contemplated hereby. CIENA is duly authorized or qualified to conduct its business in each jurisdiction where the ownership or leasing of its properties or the nature of its activities in connection with the conduct of its business makes such qualification necessary.

SECTION 3.2. Certificate of Incorporation and Bylaws.

CIENA has previously made available to Company complete and correct copies of CIENA's Certificate of Incorporation and its Bylaws, as amended to date (together, the "CIENA Charter Documents"). Such CIENA Charter Documents and equivalent organizational documents of each of its Subsidiaries are in full force and effect.

SECTION 3.3. Authority.

The execution and delivery of this Agreement by CIENA and the consummation by CIENA of the transactions contemplated hereby have been duly and validly authorized by all necessary corporate action and no other corporate proceedings on the part of CIENA are necessary to authorize this Agreement or to consummate the transactions contemplated hereby. This Agreement has been duly executed and delivered by CIENA and, assuming the due authorization, execution and delivery by the Company, constitutes a legal, valid and binding obligation of CIENA, enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws of general applicability relating to or affecting creditors' rights generally and by the application of general principles of equity.

SECTION 3.4. No Conflict; Required Filings and Consents.

(a) The execution and delivery of this Agreement by CIENA does not, and the performance by CIENA of its obligations under this Agreement will not, (i) conflict with or violate the CIENA Charter Documents, (ii) conflict with or violate any Law applicable to CIENA or its Assets and properties, or (iii) result in any breach of or constitute a default (or an event which with the notice or lapse of time or both would become a default) under any note, bond, mortgage, indenture, contract, agreement, lease, license, permit, franchise or other instrument or obligation to which CIENA is a party or by which CIENA is bound, or by which any of its properties or Assets is subject.

(b) The execution and delivery of this Agreement by CIENA does not, and the performance of this Agreement by CIENA will not, require any consent, approval, authorization or permit of, or filing with or notification to, any Governmental Entity other than (i) the filing of the Certificate of Merger under the DGCL, (ii) required filings with the Securities and Exchange Commission and NASDAQ, and (iii) filings under the Hart-Scott-Rodino Act.

SECTION 3.5. Brokers.

No broker, finder or investment banker is entitled to any brokerage, finder's or other fee or commission in connection with the transactions contemplated by this Agreement based upon arrangements made by or on behalf of CIENA, except for the fee to be paid by CIENA to Morgan, Stanley & Co. Incorporated.

SECTION 3.6. Issuance of CIENA Common Stock.

Upon consummation of the Merger, and as of the Effective Time, the CIENA Common Stock to be issued in the Merger will be duly and validly issued, fully paid and non-assessable, free and clear of all Encumbrances imposed by CIENA, except as contemplated hereby.

SECTION 3.7. SEC Filings.

CIENA has filed all reports required to be filed by it with the Securities and Exchange Commission (the "SEC") during the last twelve months (the "SEC Filings"). The SEC Filings (i) were prepared in accordance with the requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and (ii) did not, at the time they were filed, contain any untrue statements of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. Since the date of CIENA's last periodic report filed with the SEC there has been no event that has resulted in, or development that would reasonably be expected to result in, a CIENA Material Adverse Effect. The financial statements (including the related notes) of CIENA included in the SEC Filings complied, when filed, as to form in all material respects with applicable accounting requirements and the published rules and regulations of the SEC with respect thereto, were prepared in accordance with GAAP (except, in the case of unaudited statements, as permitted by Form 10-Q of the SEC) applied on a consistent basis during the periods involved (except as may be indicated in the notes thereto) and fairly presented in all material respects the consolidated financial position of CIENA and its consolidated Subsidiaries as of the dates thereof and their consolidated results of operations and cash flows for the periods then ended (subject, in the case of unaudited statements, to normal and recurring year-end audit adjustments and the absence of footnotes).

SECTION 3.8 Litigation.

Except as disclosed in CIENA's SEC Filings filed prior to the date hereof, there is no action, suit, investigation, claim, arbitration or litigation pending or, to the Knowledge of CIENA, threatened against or involving CIENA or its Assets or the business and operations of CIENA, at law or in equity, or before or by any court, arbitrator or Governmental Entity that would reasonably be expected to result in a CIENA Material Adverse Effect. Except under proceedings that have been disclosed in CIENA's SEC Filings filed

prior to the date hereof, CIENA is not operating under nor is it subject to any judgment, writ, order, injunction, award or decree of any court, judge, justice or magistrate, including any bankruptcy court or judge, or any order of or by any Governmental Entity. No property or Assets of CIENA has been taken or expropriated by any federal, state, provincial, municipal or other Governmental Entity nor has any notice or proceeding with respect to thereof been given or commenced nor is CIENA aware of any intent or proposal to give any such notice or commence any such proceeding.

SECTION 3.9 Capitalization.

The authorized capital stock of CIENA consists of 980,000,000 shares of common stock, \$0.01 par value per share, of which 474,947,608 shares are issued and outstanding as of February 17, 2004 and 20,000,000 shares of Preferred Stock, par value \$0.01 per share, none of which are issued and outstanding. Except (i) as described in public announcements by CIENA or in its SEC Filings, (ii) for shares issuable in the Merger Agreement, and (iii) for 50,836,231 shares issuable under outstanding stock options and 18,512,811 shares issuable under stock purchase plans and the shares issuable under the terms of the Rights Agreement, there are no options, warrants or other agreements obligating CIENA to issue or sell any shares of capital stock of, or other equity interests in CIENA. Except as disclosed in the SEC Filings, there are no outstanding obligations of CIENA to repurchase, redeem or otherwise acquire any shares of its capital stock. All of the issued and outstanding shares of CIENA capital stock have been duly authorized and validly issued in accordance with applicable laws and are fully paid and non-assessable and not subject to preemptive rights.

SECTION 3.10 Absence of Certain Changes or Events.

Since October 31, 2003, except as described in public announcements by CIENA or in its SEC Filings, announced or filed, as the case may be, prior to the date of this Agreement, there has not been: (i) any CIENA Material Adverse Effect, (ii) any declaration, setting aside or payment of any dividend on, or other distribution (whether in cash, stock or property) in respect of any of CIENA's capital stock, or any purchase, redemption or other acquisition by CIENA of any of CIENA's capital stock or any other securities of CIENA or any options, warrants, calls or rights to acquire any such shares or other securities except for repurchases from employees following their termination pursuant to the terms of their pre-existing stock option or purchase agreements, (iii) any split, combination or reclassification of any of CIENA's capital stock, or (iv) any material change by CIENA in its accounting methods, principles or practices, except as required by concurrent changes in GAAP, SEC rules and regulations and related interpretations.

ARTICLE IV

COVENANTS

SECTION 4.1. Conduct of Business Pending Closing.

From the date hereof until the Closing or the termination of this Agreement, the Company shall:

- (i) maintain its existence in good standing;
- (ii) conduct its business in the Ordinary Course of Business, except as expressly permitted by this Agreement;
- (iii) maintain business and accounting records consistent with past practices, except as required by concurrent changes in GAAP and the application of SEC rules and regulations and related interpretations; and
- (iv) use commercially reasonable efforts (a) to preserve its business intact, (b) to keep available to the Company the services of its present officers and employees, and (c) to preserve for the Company the goodwill of its suppliers, customers and others having business relations with the Company.

SECTION 4.2. Prohibited Actions Pending Closing.

(a) Unless approved by the Company in writing (unless such approval would violate legal requirements) or if necessary in order to comply with applicable Laws, from the date hereof until Closing or termination of this Agreement, CIENA shall not:

(i) declare, set aside, or pay any dividends or make any other distributions (whether in cash, stock, equity securities or property) in respect to CIENA's capital stock, except where (A) an adjustment is made to the Exchange Ratios in accordance with **Section 1.6** (in the case of a dividend or distribution payable in shares of Company Common Stock only) or (B) the holders of Company Capital Stock will otherwise receive an equivalent, proportional dividend or distribution (based on the respective Exchange Ratios, as adjusted pursuant to **Section 1.6**) in connection with the Merger as if they had been holders of CIENA Common Stock on the record date for such dividend or distribution; or

(ii) agree in writing or otherwise take any of the actions described in **Section 4.2(a)(i)** above.

(b) Unless otherwise provided for herein or otherwise necessary in order to comply with Laws or the Company's obligations hereunder or approved by CIENA in writing (unless such approval would violate legal requirements), including, without limitation, by electronic mail, (which approval shall not be unreasonably withheld or delayed), from the date hereof until the Closing, the Company shall not:

(i) amend or otherwise change the Company Certificate or the bylaws of the Company, other than the Company Charter Amendment as set forth on **Schedule 4.2(b)** hereto;

(ii) issue or sell or authorize for issuance or sale (other than any issuance of Company Capital Stock upon the exercise of any outstanding option or warrant to purchase Company Capital Stock which option or warrant was issued prior to the date hereof in accordance with the terms of the relevant stock option or warrant agreement and the terms of which are disclosed on **Schedule 2.3** or which are subsequently issued in accordance with the succeeding limitations of this **Section 4.2(b)**), or grant any options or restricted stock or make other agreements with respect to, any shares of its capital stock or any other of its securities or modify the terms of existing stock options to purchase Company Capital Stock or restricted stock grants which have been issued under the Company Stock Plan, except that (A) stock options to purchase Company Common Stock or restricted stock grants may be granted under the Company Stock Plan to new hires in accordance with past practices, provided the exercise price per share of each such option is not less than the fair market value per share of Company Common Stock on the grant date, (B) the Company may carry out those provisions of any agreement with the Exchange Agent which provisions are in furtherance of this Agreement; and (C) the Company may enter into stock restriction agreements with employees of the Company upon the exercise of outstanding Company Options in the Ordinary Course of Business;

(iii) declare, set aside, make or pay any dividend or other distribution, payable in cash, stock, property or otherwise with respect to any of its capital stock;

(iv) reclassify, combine, split, subdivide or redeem, purchase or otherwise acquire, directly or indirectly, any of its capital stock except for repurchases of shares in connection with the termination of any employee or consultant pursuant to stock option, restricted stock purchase agreements or stock award agreements;

(v) incur any indebtedness for borrowed money or issue any debt securities (other than indebtedness owed to, or notes issued to CIENA pursuant to the Bridge Loan Agreement) or assume, guarantee or endorse, or otherwise as an accommodation become responsible for, the obligations of any Person, or make any loans or advances, except in the Ordinary Course of Business;

(vi) acquire (including, without limitation, by merger, consolidation, or acquisition of stock or Assets) any corporation, partnership, other business organization or any division thereof or any material amount of Assets;

- (vii) enter into any contract or agreement other than in the Ordinary Course of Business;
- (viii) authorize any capital commitment or capital lease which is in excess of \$100,000 or capital expenditures which are, in the aggregate, in excess of \$500,000;
- (ix) mortgage, pledge or subject to Encumbrance other than Permitted Encumbrances, any of its Assets or properties or agree to do so other than in the Ordinary Course of Business;
- (x) assume, guarantee or otherwise become responsible for the obligations of any other Person, or agree to so do;
- (xi) enter into or agree to enter into any employment agreement (other than offer letters for non-executive new hires entered into in the Ordinary Course of Business);
- (xii) except as required by any written agreement set forth on **Schedule 2.10** or **2.17** hereto, increase the compensation payable or to become payable to its officers or employees, or grant any severance or termination pay to, or enter into any severance agreement with any director, officer or other employee of the Company, or establish, adopt, enter into or amend any collective bargaining, bonus, profit sharing, thrift, compensation, stock option, restricted stock, pension, retirement, deferred compensation, employment, termination, severance or other plan, agreement, trust, fund, policy or arrangement for the benefit of any such director, officer or employee, except that the Company may make any amendments to existing employee benefit plans to the extent necessary to maintain their compliance with applicable Laws;
- (xiii) take any action to change in any respect its accounting policies or procedures (including, without limitation, procedures with respect to the payment of accounts payable and collection of accounts receivables), except as required by concurrent changes in GAAP and the application of SEC rules and regulations and related interpretations;
- (xiv) make any Tax election or settle or compromise any federal, state, local or foreign income Tax liability in excess of \$50,000;
- (xv) settle or compromise any pending or threatened suit, action or claim or initiate any litigation against any third party;
- (xvi) pay, discharge or satisfy any claim, liability or obligation (absolute, accrued, asserted or unasserted, contingent or otherwise), other than the payment, discharge or satisfaction (a) in the Ordinary Course of Business, of liabilities reflected or reserved against in the latest balance sheet included in the Financial Statements provided to CIENA or subsequently incurred in the Ordinary Course of Business in amounts not in excess of \$100,000, (b) of that Loan and Security Agreement between the Company and Comerica Bank, or (c) of that promissory note dated October 3, 2001 in the amount of \$1,500,000 payable by the Company to AT&T Corp., when and as the same becomes due in accordance with its terms;
- (xvii) sell, assign, transfer, license or sublicense, pledge or otherwise encumber any of the Intellectual Property Rights (other than in the Ordinary Course of Business); or
- (xviii) announce an intention, commit or agree to do any of the foregoing.

SECTION 4.3. Access; Documents; Supplemental Information.

(a) From and after the date hereof until the Closing, the Company shall afford, and, with respect to clause (ii) below, shall use its commercially reasonable best efforts to cause the independent certified public accountants for the Company to afford, (i) to the officers, independent certified public accountants, counsel and other representatives of CIENA, upon reasonable notice, free and full access at all reasonable times to the properties, books and records including tax returns filed and those in preparation of the Company and the right to consult with the officers, accountants, counsel and other representatives of the Company in order that CIENA may have full opportunity to make such investigations as it shall deem necessary of the operations, properties, business, financial condition and prospects of the Company, (ii) to

the independent certified public accountants of CIENA, free and full access at all reasonable times to the work papers and other records of the accountants relating to the Company, and (iii) to CIENA and its representatives, such additional financial and operating data and other information as to the properties, operations, business, financial condition and prospects of the Company as CIENA shall reasonably require from time to time.

(b) From the date of this Agreement until the Closing, the Company will furnish to CIENA copies of any notices, documents, requests, court papers, or other materials received from any governmental agency or any other third party with respect to the transactions contemplated by this Agreement.

SECTION 4.4. No Solicitation.

The Company shall not, nor shall it authorize or permit any of its Affiliates or any officer, director, employee, investment banker, attorney or other adviser or representative of the Company or any of its Affiliates to (a) solicit, initiate or encourage any Acquisition Proposal (as hereinafter defined), (b) enter into any agreement with respect to any Acquisition Proposal or (c) participate in any discussions or negotiations regarding, or furnish to any Person any information for the purpose of facilitating the making of, or take any other action to facilitate any inquiries or the making of, any proposal that constitutes, or may reasonably be expected to lead to, any Acquisition Proposal other than the transactions contemplated hereby; *provided, however*, that nothing contained in this Agreement shall prevent the Company or its Board of Directors or any officer, director, employee, investment banker, attorney or other adviser or representative of the Company, acting at the direction of and on behalf of the Company, at any time prior to the time the Merger has been approved by the Company's Stockholders from (aa) providing information in response to a request therefor by a Person who has delivered to the Company an unsolicited bona fide written Acquisition Proposal if the Company receives from the Person so requesting such information an executed confidentiality agreement the terms of which are (without regard to the terms of the Acquisition Proposal) (i) no less favorable to the Company and (ii) no less restrictive on the Person requesting such information than those contained in the Confidentiality Agreement; or (bb) engaging in negotiations or discussions with a Person who has delivered to the Company an unsolicited bona fide written Acquisition Proposal; if, and only to the extent that, in each such case referred to in clause (aa) or (bb) above, (x) the Board of Directors of the Company determines in good faith (after consultation with its financial advisor and outside legal counsel) that the Acquisition Proposal, if accepted, is reasonably likely to be consummated, (y) the Board of Directors of the Company determines in good faith (after consultation with its financial advisor) that the Acquisition Proposal would, if consummated, result in a transaction that is more favorable to the Company's Stockholders than the Merger (any Acquisition Proposal as to which such determinations are made being referred to in this Agreement as a "Superior Proposal") and (z) the Board of Directors determines in good faith (after consultation with outside legal counsel) that the failure by the Board of Directors to require the Company to take such action would be inconsistent with the fiduciary duties of the Board of Directors to the Company's Stockholders under applicable law. Without limiting the foregoing, it is understood that any violation of the restrictions set forth in the immediately preceding sentence by any officer, director, employee, investment banker, attorney, employee, or other advisor or representative of the Company or any of its Affiliates, whether or not such Person is purporting to act on behalf of the Company or any of its Affiliates or otherwise, shall be deemed to be a breach of this **Section 4.4** by the Company, provided, however, that any action by a Person purporting to act on behalf of the Company without actual authority in violation of the restrictions in the immediately preceding sentence shall not be deemed to be a breach of this **Section 4.4** by the Company if the Company provides written notice to CIENA within one Business Day of the discovery of such action taken or being taken, disavows the actions taken or being taken by such Person in writing to CIENA and any third parties associated with the actions of such Person in violation of this **Section 4.4**, and promptly thereafter uses all commercially reasonable available means to cause such Person to refrain from taking any further action in violation of this **Section 4.4**. Nothing in this **Section 4.4** shall permit the Company to enter into any agreement, orally or in writing, with respect to an Acquisition Proposal during the term of this Agreement (other than a confidentiality agreement as described above). The Company promptly shall advise CIENA of any Acquisition Proposal (including the terms thereof and the identity of

the person making the Acquisition Proposal except to the extent the Company is prohibited from doing so by any applicable contractual confidentiality obligations) and inquiries with respect to any Acquisition Proposal and shall keep CIENA informed on a current basis of the status of any discussions regarding an Acquisition Proposal. Nothing herein shall prevent the Board of Directors from complying with Rule 14e-2 under the Exchange Act. "Acquisition Proposal" means any proposal for a merger or other business combination involving the Company or any proposal or offer to acquire in any manner, directly or indirectly, 20% or more of the equity securities or Assets of the Company (except for sales of products in the Ordinary Course of Business). Except as otherwise provided in this Agreement, the Company will, and will cause its Affiliates to, immediately cease any activities, discussions or negotiations existing as of the date of this Agreement with any Persons (other than CIENA and its representatives) conducted heretofore with respect to any Acquisition Proposal, and will not pursue, directly or indirectly, any Acquisition Proposal received on or prior to the date of this Agreement from any Person (other than CIENA and its representatives). The Company shall not release any third party from, or waive any provisions of, any confidentiality or standstill agreement relating to an Acquisition Proposal to which such party is a party.

SECTION 4.5. Information Supplied.

Each of the Company and CIENA agree that none of the information supplied or to be supplied by it for inclusion or incorporation by reference in (a) the Registration Statement on Form S-4 to be filed with the SEC by CIENA in connection with the issuance of shares of CIENA Common Stock in the Merger (including the proxy statement or information statement and prospectus (the "Prospectus") constituting a part thereof) (the "S-4 Registration Statement") will, at the time the S-4 Registration Statement becomes effective under the Securities Act of 1933, as amended (the "Securities Act") contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, not misleading, and (b) the Prospectus and any amendment or supplement thereto will, at the date of mailing to the Company's Stockholders, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

SECTION 4.6. Stockholders' Meeting.

Whether or not the Board of Directors of the Company shall take any action permitted by the third sentence of this **Section 4.6**, the Company shall cause a meeting of its Stockholders (the "Stockholders' Meeting") to be duly called and held as soon as practicable after the date of this Agreement for the purpose of voting on the adoption of this Agreement and the Company Charter Amendment, or, subject to approval of CIENA, the Company shall solicit written consents of stockholders in lieu of a Stockholders' Meeting. The Board of Directors of the Company shall (i) include in the Prospectus prepared therefor its recommendation in favor of adoption of the Merger Agreement and the Company Charter Amendment (the "Board Recommendation") and (ii) use its reasonable best efforts to obtain the Company Requisite Stockholder Approval in favor of the adoption of this Agreement and the Company Charter Amendment. The Board of Directors of the Company shall not withdraw, amend, modify or qualify in a manner adverse to CIENA the Board Recommendation (or announce its intention to do so), except that, prior to the receipt of the Company Requisite Stockholder Approval, the Board of Directors of the Company shall be permitted to withhold, withdraw, amend, modify or materially qualify in a manner adverse to CIENA the Board Recommendation, following three Business Days' prior notice to CIENA, but only if (A) the Company has complied in all respects with this Agreement, including **Section 4.4**, and (B) after consulting with outside legal counsel, the Board of Directors determines in good faith that to include the Board Recommendation or not withhold, withdraw, amend, modify or qualify the Board Recommendation would be inconsistent with its fiduciary duties to the Stockholders of the Company under applicable law.

SECTION 4.7. Filings; Other Actions; Notification.

(a) CIENA shall prepare and file with the SEC the S-4 Registration Statement as promptly as practicable. CIENA shall use its reasonable best efforts to have the S-4 Registration Statement declared effective under the Securities Act as promptly as practicable after such filing, and promptly thereafter mail the Prospectus to the Stockholders of the Company. CIENA shall also use its reasonable best efforts to obtain prior to the effective date of the S-4 Registration Statement all necessary state securities law or “blue sky” permits and approvals required in connection with the Merger and to consummate the other transactions contemplated by this Agreement.

(b) The Company and CIENA each shall from the date hereof until the Effective Time cooperate with the other and use its reasonable best efforts to cause to be done all things necessary, proper or advisable on its part under this Agreement and applicable Laws to consummate and make effective the Merger and the other transactions contemplated by this Agreement as soon as practicable, including preparing and filing as promptly as practicable all documentation to effect all necessary notices, reports and other filings and to obtain as promptly as practicable all consents, registrations, approvals, permits and authorizations necessary or advisable to be obtained from any third party and/or any Governmental Entity, including filings under the Hart-Scott-Rodino Act, in order to consummate the Merger or any of the other transactions contemplated by this Agreement. CIENA and the Company will each advise the other promptly in respect of any understandings or arguments which either proposes to make or has made with applicable federal, state or foreign Governmental Entities having jurisdiction over or rights of review with respect to antitrust Laws, in connection with the Merger, and CIENA and the Company shall use their reasonable best efforts to seek to resolve any objections to the Merger as may be asserted by a Governmental Entity under applicable laws. Notwithstanding, the foregoing, nothing herein shall require CIENA, in connection with the receipt of any regulatory approval, to agree to sell or divest any material assets or business or agree to restrict in any material way any business conducted by or proposed to be conducted by CIENA or to litigate or formally contest any proceeding relating to any regulatory approval process in connection with the Merger.

(c) The Company and CIENA each shall, upon request by the other, furnish the other with all information concerning itself, its Subsidiaries, directors, executive officers and stockholders and such other matters as may be reasonably necessary or advisable in connection with the Prospectus, the S-4 Registration Statement or any other statement, filing, notice or application made by or on behalf of CIENA, the Company or any of their respective Subsidiaries to any third party and/or any Governmental Entity in connection with the Merger and the transactions contemplated by this Agreement.

(d) The Company shall cause Sonnenschein Nath & Rosenthal LLP, counsel to the Company, and CIENA shall cause Hogan & Hartson L.L.P., counsel to CIENA, to deliver a tax opinion for inclusion in the S-4 Registration Statement in the form required by the SEC. In rendering such opinions, Sonnenschein Nath & Rosenthal LLP, and Hogan & Hartson L.L.P. may require delivery of and rely upon representation letters delivered by CIENA and the Company in customary form.

(e) The Company and CIENA each shall keep the other apprised of the status of matters relating to completion of the transactions contemplated hereby.

SECTION 4.8. NASDAQ Listing.

To the extent required by the rules of the National Association of Securities Dealers, Inc., as soon as practicable after the date hereof and in any event prior to the Effective Time, CIENA shall list on NASDAQ the shares of CIENA Common Stock to be issued in connection with the Merger and upon exercise of the Assumed Options and the Company Preferred Warrants (each as defined below).

SECTION 4.9. Company Options; Company Preferred Warrants.

(a) Concurrent with the Effective Time, each Company Option which is outstanding immediately prior to the Effective Time pursuant to the Company Stock Plan in effect on the date hereof shall,

together with the Company Stock Plan, be assumed by CIENA and shall thereby be converted into an option (an "Assumed Option") to purchase the number of shares of CIENA Common Stock (decreased to the nearest full share) determined by multiplying (i) the number of shares of Company Common Stock subject to such Company Option immediately prior to the Effective Time by (ii) the Common Stock Exchange Ratio, at an exercise price per share of CIENA Common Stock (increased to the nearest whole cent) equal to the exercise price per share of Company Common Stock in effect under such Company Options immediately prior to the Effective Time divided by the Common Stock Exchange Ratio. Except for the foregoing adjustments and the Rights and except as contemplated by this **Section 4.9(a)**, all the terms and conditions in effect for each Assumed Option immediately prior to the Effective Time, including the vesting thereof under the Company Stock Plan, shall continue in effect following the assumption of such option in accordance with this Agreement. The Company agrees that it will not grant any stock appreciation rights or limited stock appreciation rights and will not permit cash payments to holders of Company Stock Options in lieu of the substitution therefor of Assumed Options. The Company shall take all actions necessary to assure that no acceleration of vesting of Assumed Options shall occur solely as a result of the Merger, except with respect to any Company Options, the terms of which are described on **Schedule 2.3(c)**, outstanding on the date of this Agreement that specifically provide for such acceleration of vesting. Notwithstanding the foregoing, any Continuing Employee terminated following the Closing under the circumstances described on **Schedule 4.9(a)** attached hereto shall be entitled to acceleration of vesting as described thereon.

(b) CIENA shall take all corporate action necessary to reserve for issuance a sufficient number of shares of CIENA Common Stock for delivery upon the exercise of the Assumed Options and the Company Preferred Warrants. As soon as practicable after the Effective Time, CIENA shall deliver to the holders of Company Options appropriate notices setting forth such holders' rights pursuant to CIENA's stock option plans and the agreements evidencing the grants of such Assumed Options and that such Assumed Options shall continue in effect on the same terms and conditions as the Company Options (subject to the adjustment set forth in this **Section 4.9**).

(c) As soon as practicable after the Effective Time, CIENA shall prepare and file with the SEC a registration statement on Form S-8 (or another appropriate form) registering a number of shares subject to the Assumed Options. Such registration statement shall be kept effective (and the current status of the prospectus required thereby shall be maintained in accordance with the relevant requirements of the Securities Act and the Exchange Act) at least for so long as any Assumed Options remain outstanding.

(d) Concurrent with the Effective Time, each warrant to purchase Company Preferred Stock that is then outstanding and exercisable described in **Schedule 2.3** (each, a "Company Preferred Warrant"), without any action on the part of the holder, shall be deemed assumed by CIENA and shall constitute a warrant to acquire, on the same terms and conditions as were applicable under such Company Preferred Warrant, a number of shares of CIENA Common Stock equivalent to (A) the number of shares of Company Preferred Stock that could have been purchased immediately prior to the Effective Time under such Company Preferred Warrant multiplied by (b) the Preferred Stock Exchange Ratio for the series of Company Preferred Stock into which such Company Preferred Warrant is exercisable (rounded down to the nearest whole number), at a price per share of CIENA Common Stock (rounded up to the nearest whole cent) equal to the exercise price per share pursuant to such Company Preferred Warrant immediately prior to the Effective Time divided by the applicable Preferred Stock Exchange Ratio for the series of Company Preferred Stock into which such Company Preferred Warrant is exercisable. At or prior to the Effective Time, the Company shall make all necessary arrangements with respect to the Company Preferred Warrants to permit the assumption of the unexercised Company Preferred Warrants by CIENA pursuant to this **Section 4.9(d)**.

SECTION 4.10. Notification of Certain Matters.

The Company shall give prompt notice to CIENA, and CIENA shall give prompt notice to the Company, of (a) the occurrence, or non-occurrence, of any event which would be likely to cause (i) any representation or warranty contained in this Agreement to be untrue or inaccurate in any material respect

or (ii) any covenant, condition or agreement contained in this Agreement not to be complied with or satisfied; and (iii) any failure of the Company or CIENA, as the case may be, to comply with or satisfy any covenant, condition or agreement to be complied with or satisfied by it hereunder; provided that the delivery of any notice pursuant to this **Section 4.10** shall not limit or otherwise affect the remedies available to the party receiving such notice.

SECTION 4.11. Reorganization.

(a) Each of CIENA and the Company shall use its best efforts to cause the business combination to be effected by the Merger to be qualified as a “reorganization” described in Section 368(a) of the Code. CIENA shall not take or fail to take, or cause any Person to take or fail to take, any action which action or failure would reasonably be expected to cause the Merger to fail to qualify as a “reorganization” within the meaning of Section 368(a) of the Code.

(b) The Merger shall be reported as a “reorganization” within the meaning of Section 368(a) of the Code in all federal, and to the extent permitted, state and local Tax Returns filed after the Effective Time.

SECTION 4.12. Indemnification.

(a) From and after the Effective Time for a period of six years, CIENA shall fulfill the obligations of the Company to indemnify each person who is or was a director or officer of the Company against losses such person may incur based upon matters existing or occurring prior to the Effective Time pursuant to any applicable indemnification agreements and any indemnification provision of the Company Certificate or its bylaws as each is in effect on the date hereof.

(b) In the event a current or former director or officer of the Company is entitled to indemnification under this **Section 4.12**, such director or officer shall be entitled to reimbursement from CIENA (from and after the Closing Date) for reasonable attorney fees and expenses incurred by such director or officer in pursuing such indemnification, including payment of such fees and expenses by CIENA, in advance of the final disposition of such action upon receipt of an undertaking by such current or former director or officer to repay such payment if it shall be adjudicated that such current or former director or officer was not entitled to such payment.

(c) If CIENA or any of its successors or assigns (i) consolidates with or merges into any other Person and shall not be the continuing or surviving corporation or entity of such consolidation or merger, or (ii) transfers all of substantially all of its properties and assets to any Person, then, and in each such case, proper provision shall be made so that the successors and assigns of CIENA assume, as a matter of law or otherwise, the obligations set forth in this **Section 4.12**.

SECTION 4.13. Employee Benefits Matters.

(a) The Company will adopt, or will cause to be adopted, all necessary corporate resolutions to terminate the Company 401(k) Retirement Plan, and any other 401(k) Plan maintained by the Company, effective as of no later than one day prior to Closing. Immediately prior to such termination, the Company will make all necessary payments to fund the contributions: (i) necessary or required to maintain the tax-qualified status of the 401(k) Plan; (ii) for elective deferrals made pursuant to the 401(k) Plan for the period prior to termination; and (iii) for employer matching contributions for the period prior to termination. A 401(k) Plan means a qualified plan under Code Section 401(a) sponsored and maintained by the Company, which includes a qualified cash or deferred arrangement, as defined in Section 401(k) of the Code. The Company shall provide CIENA with a copy of resolutions duly adopted by the Company’s board of directors terminating the 401(k) Plan. CIENA will take such steps as are reasonably necessary to ensure that CIENA’s 401(k) Plan will permit Company employees to make individual rollover contributions to CIENA’s 401(k) Plan of any “eligible rollover distributions,” as such term is defined in CIENA’s 401(k) Plan, distributed by the Company 401(k) Plan. Effective as of the Closing Date, Continuing Employees (as defined below) will be eligible to participate in the CIENA 401(k) Plan.

(b) Following the Closing Date, CIENA shall arrange for employees of the Company who continue employment with CIENA (“Continuing Employees”) and Transitional Employees to participate in the benefit plans of CIENA (“CIENA Benefit Plans”) on terms no less favorable than those offered to similarly situated employees of CIENA, and CIENA shall use commercially reasonable efforts to ensure that Continuing Employees and Transitional Employees who are actually employed (or on approved absence or leave) and currently working for the Company at the Effective Time do not have a lapse of coverage in the transition from Company Benefit Plans to CIENA Benefit Plans. For purposes of any length of service requirements, waiting periods, vesting periods or differential benefits based on length of service under any CIENA Benefit Plan (including the CIENA 401(k) Plan) for which a Continuing Employee or a Transitional Employee may be eligible after the Closing Date, CIENA shall use its commercially reasonable efforts to ensure that service by such Continuing Employee or Transitional Employee, as the case may be, with the Company shall be deemed to have been service with CIENA.

(c) CIENA shall identify and submit to the Company a list of all Terminated Employees and Transitional Employees no later than 10 days prior to Closing. If a person is not listed as a Terminated Employee or a Transitional Employee on such list, then such person shall be a Continuing Employee.

SECTION 4.14. Section 16.

Assuming that the Company delivers to CIENA the Section 16 Information (as defined below) in a timely fashion, the Board of Directors of CIENA, or a committee of two or more Non-Employee Directors thereof (as such item is defined for purposes of Rule 16b-3 under the Exchange Act), shall adopt resolutions prior to the consummation of the Merger, providing that the receipt by the Company Insiders (as defined below) of CIENA Common Stock in exchange for capital stock of the Company pursuant to the transactions contemplated hereby and to the extent such securities are listed in the Section 16 Information, are intended to be exempt from liability pursuant to Section 16(b) under the Exchange Act. Such resolutions shall comply with the approval conditions of Rule 16b-3 under the Exchange Act for purposes of such Section 16(b) exemption, including, but not limited to, specifying the name of the Company Insiders, the numbers of securities to be acquired or disposed of for each such person, the material terms of any derivative securities, and that the approval is intended make the receipt of such securities exempt pursuant to Rule 16b-3(d). “Section 16 Information” shall mean information accurate in all respects regarding the Company Insiders, as well as the number of shares of capital stock of the Company held by each such Company Insider and expected to be exchanged for CIENA Common Stock in the Merger. “Company Insiders” shall mean those officers and directors of the Company whom CIENA notifies the Company prior to the Merger will be subject to the reporting requirements of Section 16(b) of the Exchange Act with respect to CIENA.

ARTICLE V

CONDITIONS PRECEDENT

SECTION 5.1. Conditions Precedent to Each Party’s Obligation to Effect the Merger.

The respective obligations of each party hereto to effect the Merger shall be subject to the fulfillment or satisfaction, prior to or on the Closing Date of the following conditions:

(a) Approvals. All authorizations, consents, orders, declarations or approvals of, or filings with, or terminations or expirations of waiting periods imposed by (including without limitation, expiration of any Hart-Scott-Rodino waiting period), any Governmental Entity, shall be in effect, except where the failure to obtain, make or occur would not have the effect of making the Merger or any of the transactions contemplated hereby illegal or would not have a CIENA Material Adverse Effect or a Company Material Adverse Effect.

(b) Litigation. No court or Governmental Entity of competent jurisdiction shall have enacted, issued, promulgated, enforced or entered any Law, judgment, decree, injunction or other order (whether temporary, preliminary or permanent) that is in effect and restrains, enjoins or otherwise prohibits the

consummation of the Merger (collectively, an “Order”) and no Governmental Entity shall have instituted any proceeding which continues to be pending seeking any such Order.

(c) S-4. The S-4 Registration Statement shall have become effective under the Securities Act. No stop order suspending the effectiveness of the S-4 Registration Statement shall have been issued, and no proceeding for that purpose shall have been initiated, or be threatened, by the SEC.

(d) Stockholder Approval. The Merger and the Company Charter Amendment shall have been duly approved by holders of Company Capital Stock constituting the Company Requisite Stockholder Approval. The Company Charter Amendment shall have been filed and become effective with the Secretary of State of the State of Delaware.

SECTION 5.2. Conditions Precedent to CIENA’s Obligations.

The obligations of CIENA to effect the Merger shall be subject to the fulfillment or satisfaction, prior to or on the Closing Date, of each of the following conditions precedent:

(a) Performance of Obligations; Representations and Warranties. The Company shall have performed in all material respects and complied in all material respects with all agreements and covenants contained in this Agreement that are required to be performed or complied with by it prior to or at the Closing. The Company’s representations and warranties contained in **Article II** of this Agreement shall be true and correct on and as of the Closing except (i) for changes permitted by this Agreement, (ii) to the extent that such representations and warranties expressly relate to an earlier date, in which case such representations and warranties shall be true and correct as of such earlier date and (iii) to the extent such failures to be true and correct would not, individually or in the aggregate, have a Company Material Adverse Effect. CIENA shall have received a certificate dated the Closing Date and signed by the Chief Executive Officer, President or a Vice President of the Company, certifying that the conditions specified in this **Section 5.2(a)** have been satisfied. In addition, the Company’s Chief Executive Officer and Chief Financial Officer shall execute and deliver to CIENA a bring-down certification dated the Closing Date in the form attached as **Exhibit B** attached hereto.

(b) Consents. The Company shall have received consents or waivers, in form and substance reasonably satisfactory to CIENA from the other parties to the contracts, leases or agreements to which the Company is a party and which are set forth on **Schedule 5.2(b)**.

(c) Escrow Agreement. The Stockholder Representative shall have executed and delivered the Escrow Agreement substantially in the form attached hereto as **Exhibit D**, on behalf of all Stockholders other than the holders of Dissenting Shares.

(d) Opinion of Counsel. CIENA shall have received the favorable written opinions, dated the Closing Date, of (i) Sonnenschein Nath & Rosenthal LLP, counsel to the Company, in form satisfactory to CIENA, to the effect set forth in **Exhibit E** attached hereto, and (ii) the opinion of Hogan & Hartson L.L.P., counsel to CIENA, to the effect that the Merger will not result in taxation to CIENA under the Code. In rendering such opinion, Hogan & Hartson L.L.P. may require delivery of and rely upon representation letters delivered by CIENA in customary form.

(e) Affiliate Letters. CIENA shall have received an executed Affiliate Letter from each director and executive officer of the Company in substantially in the form attached hereto as **Exhibit A**, as applicable, and each such Affiliate Letter shall remain in effect as of the Closing Date.

(f) Comerica Loan. The Company shall have repaid all amounts outstanding under that certain Loan and Security Agreement between the Company and Comerica Bank dated as of December 20, 2002.

SECTION 5.3. Conditions Precedent to the Company's Obligations.

The obligations of the Company to effect the Merger shall be subject to the fulfillment or satisfaction, prior to or on the Closing Date, of each of the following conditions precedent:

(a) **Performance of Obligations; Representations and Warranties.** CIENA shall have performed in all material respects and complied in all material respects with all agreements and conditions contained in this Agreement that are required to be performed or complied with by it prior to or at the Closing. The representations and warranties of CIENA contained in Article III of this Agreement shall be true and correct except (i) for changes permitted by this Agreement, (ii) to the extent that such representations and warranties expressly relate to an earlier date, in which case such representations and warranties shall be true and correct as of such earlier date and (iii) to the extent such failures to be true and correct would not, individually or in the aggregate, have a CIENA Material Adverse Effect. The Company shall have received certificates dated the Closing Date and signed by the Chairman, President or a Senior Vice-President of CIENA, certifying that the conditions specified in this **Section 5.3(a)** have been satisfied.

(b) **NASDAQ Listing.** To the extent required by the rules of the National Association of Securities Dealers, Inc., CIENA shall have timely filed a Notification Form: Listing of Additional Shares with respect to the CIENA Common Stock to be issued in the Merger.

(c) **Opinions of Counsel.** The Company shall have received the favorable written opinions, dated the Closing Date, of (i) Hogan & Hartson L.L.P., counsel to CIENA, in form satisfactory to the Company, to the effect set forth in **Exhibit F** attached hereto, and (ii) Sonnenschein Nath & Rosenthal LLP, counsel to the Company, to the effect that the Merger will not result in the taxation to the Company Stockholders under the Code. In rendering such opinion, Sonnenschein Nath & Rosenthal LLP may require delivery of and rely upon representation letters delivered by the Company in customary form.

(d) **Escrow Agreement.** CIENA shall have executed and delivered the Escrow Agreement substantially in the form attached hereto as **Exhibit D**.

ARTICLE VI

**SURVIVAL OF REPRESENTATIONS AND WARRANTIES;
INDEMNIFICATION**

SECTION 6.1. Survival of Representations and Warranties.

All of the Company's and CIENA's representations and warranties in this Agreement or in any instrument delivered pursuant to this Agreement shall survive the Merger and continue until the date which is one year following the Closing Date (the "Indemnification Expiration Date"), provided, however, that the Company's representations set forth in **Section 2.16** hereof shall survive until 60 days after the expiration (including extensions) of the applicable statute of limitations and the Company's representations set forth in the second sentence of **Section 2.3** shall survive indefinitely.

SECTION 6.2. Indemnification by Stockholders; Escrow Agreement.

(a) **Indemnification.** CIENA and its respective officers, directors and Affiliates (the "CIENA Indemnified Parties") shall be indemnified and held harmless by the Stockholders (other than those dissenting stockholders exercising rights of appraisal under Section 262 of the DGCL who do not receive CIENA Common Stock in the Merger) against all claims, losses, liabilities, damages, deficiencies, costs and expenses, including reasonable attorneys' fees and expenses of investigation (hereinafter individually a "Loss" and collectively "Losses") incurred prior to the Indemnification Expiration Date by the CIENA Indemnified Parties directly or indirectly as a result of: (i) any inaccuracy or breach of a representation or warranty of the Company or the Principal Officer's contained in this Agreement or contained in a certificate of any officer of the Company delivered pursuant to this Agreement (it being understood that, notwithstanding the Closing, CIENA shall be entitled to indemnification for any breach or inaccuracy of the Company's or Principal Officer's representations and warranties when made and as if made again on

the Closing Date except to the extent that such representations and warranties expressly relate to an earlier date, in which case such representations and warranties shall be as of such earlier date), (ii) any failure by the Company to perform or comply with any covenant or agreement contained in this Agreement, (iii) costs incurred by CIENA in responding to any exercise of dissenters' rights by any holder of Company Capital Stock, provided, however, that if any holders of Dissenting Shares successfully exercises dissenters' rights pursuant to **Section 1.7** and the DGCL, the Stockholders shall be responsible hereunder solely for the incremental costs incurred by the CIENA Indemnified Parties above and beyond the value of the CIENA Common Stock (determined on the basis of the average closing price thereof for the 10 days preceding the date hereof) that such holders would have received hereunder if such holder did not exercise dissenters' rights, or (iv) fees and expenses incurred by or on behalf of the Company or its Stockholders in excess of the amount set forth in **Section 7.1** hereof. Nothing herein shall limit the liability of the Company for any breach of any representation, warranty, covenant or agreement if the Merger is not consummated.

(b) Indemnification Threshold and Limitations.

(i) Except as set forth below, there shall be no liability for any Stockholder under **Section 6.2** unless the aggregate amount of Losses incurred by the CIENA Indemnified Parties exceeds \$500,000 (the "CIENA Indemnification Threshold") in the aggregate, in which event the entire aggregate amount of the Losses shall be indemnifiable pursuant to **Section 6.2(a)**, provided that any Loss incurred pursuant to clause (iv) of **Section 6.2(a)** shall be payable without reference to the CIENA Indemnification Threshold.

(ii) Subject to the last sentence of **Section 6.2(a)** and **Section 6.6**, the CIENA Indemnified Parties' sole and exclusive remedy for any Losses incurred directly or indirectly as a result of any of the items referred to in clauses (i) (other than Losses resulting from fraud or willful misrepresentation or Losses resulting from a breach of the representations contained in the second sentence of **Section 2.3**, in **Section 2.4(a)** or in **Section 2.16**), (ii), (iii), and (iv) of **Section 6.2(a)** shall be indemnification pursuant to this **Article VI**. Subject to the last sentence of **Section 6.2(a)** and **Section 6.6**, the liability of the Stockholders under and the right of the CIENA Indemnified Parties to seek such indemnification shall be limited solely and exclusively to the Escrow Amount (other than with respect to Losses resulting from fraud or willful misrepresentation or Losses resulting from a breach of the representations contained in the second sentence of **Section 2.3**, **Section 2.4(a)** or in **Section 2.16**).

(c) Satisfaction of Indemnification Obligations; Escrow Fund; Reimbursement Fund.

Each of the Stockholders (other than holders of Dissenting Shares) receiving CIENA Common Stock in the Merger will be deemed to have received and deposited with the Escrow Agent (as defined below) the Escrow Amount and the Reimbursement Amount (plus, in each case, any additional shares as may be issued upon any stock split, stock dividend or recapitalization effected by CIENA after the Effective Time with respect to the Escrow Amount or the Reimbursement Amount, as applicable). The Escrow Amount will be deposited with and will be held by an institution mutually acceptable to CIENA and the Stockholders' Representative (as defined in **Section 6.4**) as Escrow Agent (the "Escrow Agent"), such deposit to constitute an escrow fund (the "Escrow Fund") to be governed by the terms set forth in the Escrow Agreement. Payment of any Loss from the Escrow Amount shall be taken ratably from the Escrow Shares (as defined in the Escrow Agreement). The Reimbursement Amount will be deposited with and will be held by the Escrow Agent, such deposit to constitute a reimbursement fund (the "Reimbursement Fund") to be governed by the terms set forth in the Escrow Agreement. Payment of any amount out of the Reimbursement Amount shall be taken ratably from the Reimbursement Shares (as defined in the Escrow Agreement).

SECTION 6.3. Indemnification by CIENA.

(a) Indemnification. The Stockholders and the Company and its respective officers, directors and Affiliates (the "Company Indemnified Parties") shall be indemnified and held harmless by CIENA

against all Losses incurred prior to the Indemnification Expiration Date by the Company Indemnified Parties directly or indirectly as a result of: (i) any inaccuracy or breach of a representation or warranty of CIENA contained in this Agreement or contained in a certificate of any officer CIENA delivered pursuant to this Agreement (it being understood that, notwithstanding the Closing, the Stockholders shall be entitled to indemnification for breach or inaccuracies of representations and warranties when made and as if made again on the Closing Date except to the extent that such representations and warranties expressly relate to an earlier date, in which case such representations and warranties shall be as of such earlier date), or (ii) any failure by CIENA to perform or comply with any covenant or agreement contained in this Agreement. Nothing herein shall limit the liability of CIENA for any breach of any representation, warranty, covenant or agreement if the Merger is not consummated.

(b) Indemnification Threshold and Limitations.

(i) Except as set forth below, there shall be no liability for CIENA under **Section 6.3** unless the aggregate amount of Losses incurred by the Company Indemnified Parties exceeds \$500,000 (the “Company Indemnification Threshold”) in the aggregate, in which event the entire aggregate amount of the Losses shall be indemnifiable pursuant to **Section 6.3(a)**, provided that the aggregate amount of Losses for which CIENA shall be liable shall in no event exceed the product of Aggregate Share Consideration and the Per Share Price, and provided further that any Loss incurred that is recovered or recoverable pursuant to **Section 4.12** hereunder shall be payable without reference to the Company Indemnification Threshold.

(ii) Subject to the last sentence of **Section 6.3(a)** and **Section 6.6**, the Company Indemnified Parties’ sole and exclusive remedy for any Losses incurred directly or indirectly as a result of any of the items referred to in clauses (i) and (ii) of **Section 6.3(a)** shall be indemnification pursuant to this **Article VI**.

SECTION 6.4. Stockholders’ Representative.

(a) Appointment. Effective upon receipt of the Requisite Company Stockholder Approval and without any further action by the Stockholders, the Company and, by their approval and adoption of this Agreement, the Stockholders hereby appoint Sprout Capital IX, L.P. as agent and attorney-in-fact (the “Stockholders’ Representative”) for each Stockholder receiving CIENA Common Stock in the Merger, for and on behalf of the Stockholders. The Stockholders’ Representative shall have full power and authority to represent all of the Stockholders and their successors with respect to all matters arising under this Agreement and the Escrow Agreement and all actions taken by the Stockholders’ Representative hereunder and thereunder shall be binding upon all such Stockholders and their successors as if expressly confirmed and ratified in writing by each of them and no Stockholder shall have the right to object, dissent, protest or otherwise contest the same. The Stockholders’ Representative shall take any and all actions which it believes are necessary or appropriate under this Agreement and the Escrow Agreement for and on behalf of the Stockholders, as fully as if the Stockholders were acting on their own behalf, including, without limitation, executing the Escrow Agreement as Stockholders’ Representative, giving and receiving any notice or instruction permitted or required under this Agreement or the Escrow Agreement by the Stockholders’ Representative or any Stockholder, interpreting all of the terms and provisions of this Agreement and the Escrow Agreement, authorizing payments to be made with respect hereto or thereto, obtaining reimbursement as provided for herein for all out-of-pocket fees and expenses and other obligations of or incurred by the Stockholders’ Representative in connection with this Agreement and the Escrow Agreement, defending all indemnity claims against the Stockholders pursuant to **Section 6.2** of this Agreement (an “Indemnity Claim”), consenting to, compromising or settling all Indemnity Claims, conducting negotiations with CIENA and its agents regarding such claims, dealing with CIENA and the Escrow Agent under this Agreement and the Escrow Agreement with respect to all matters arising under this Agreement and the Escrow Agreement, taking any and all other actions specified in or contemplated by this Agreement and the Escrow Agreement, and engaging counsel, accountants or other Stockholders’ Representatives in connection with the foregoing matters. Without limiting the generality of the foregoing, the Stockholders’ Representative shall have full power and authority to interpret all the terms and

provisions of this Agreement and the Escrow Agreement and to consent to any amendment hereof or thereof on behalf of all such Stockholders and such successors. Notwithstanding the foregoing, each Stockholder shall have the right to exercise any voting rights appertaining to the Escrow Shares and the Reimbursement Shares.

(b) Authorization. The Company hereby authorizes the Stockholders' Representative, on its and the Stockholders' behalf (and by their approval of this Agreement and the Merger, the Stockholders hereby authorize the Stockholders' Representative), to:

(i) Receive all notices or documents given or to be given to any of the Stockholders by CIENA pursuant hereto or to the Escrow Agreement or in connection herewith or therewith and to receive and accept service of legal process in connection with any suit or proceeding arising under this Agreement or the Escrow Agreement;

(ii) Deliver to CIENA at the Closing all certificates and documents to be delivered to CIENA by any of the Stockholders pursuant to this Agreement, together with any other certificates and documents executed by any of the Stockholders and deposited with the Stockholders' Representative for such purpose;

(iii) Engage counsel, and such accountants and other advisors for any of the Stockholders and incur such other expenses on behalf of any of the Stockholders in connection with this Agreement or the Escrow Agreement and the transactions contemplated hereby or thereby as the Stockholders' Representative may in its sole discretion deem appropriate; and

(iv) Take such action on behalf of any of the Stockholders as the Stockholders' Representative may in its sole discretion deem appropriate in respect of:

(A) waiving any inaccuracies in the representations or warranties of CIENA contained in this Agreement or in any document delivered by CIENA pursuant hereto;

(B) waiving the fulfillment of any of the conditions precedent to the Company's obligations hereunder or pursuant to the Escrow Agreement;

(C) taking such other action as the Stockholders' Representative or any of the Stockholders is authorized to take under this Agreement or the Escrow Agreement;

(D) receiving all documents or certificates and making all determinations, on behalf of any of the Stockholders, required under this Agreement or the Escrow Agreement;

(E) all such other matters as the Stockholders' Representative may in its sole discretion deem necessary or appropriate to consummate this Agreement or the Escrow Agreement and the transactions contemplated hereby and thereby; and

(F) all such action as may be necessary after the Closing Date to carry out any of the transactions contemplated by this Agreement and the Escrow Agreement, including, without limitation, the defense and/or settlement of any claims for which indemnification is sought pursuant to **Article VI** and any waiver of any obligation of CIENA.

All actions, decisions and instructions of the Stockholders' Representative shall be conclusive and binding upon all of the Stockholders and no Stockholder nor any other Person shall have any claim or cause of action against the Stockholders' Representative, and the Stockholders' Representative shall have no liability to any Stockholder or any other Person, for any action taken, decision made or instruction given by the Stockholders' Representative in connection with the Escrow Agreement or this Agreement, except in the case of his own gross negligence or willful misconduct.

(c) Indemnification of Stockholders' Representative. The Stockholders' Representative shall incur no liability to the Stockholders or the Escrow Agent or any other person with respect to any action taken or suffered by it in reliance upon any note, direction, instruction, consent, statement or other documents reasonably believed by the Stockholders' Representative to be genuinely and duly authorized by holders of

not less than a 61% interest in the Escrow Fund, nor for other action or inaction taken or omitted in good faith in connection herewith or with the Escrow Agreement, in any case except for liability to the Stockholders for its own gross negligence or willful misconduct. The Stockholders' Representative shall be indemnified for and shall be held harmless against any loss, liability or expense incurred by the Stockholders' Representative or any of its Affiliates and any of their respective partners, directors, officers, employees, agents, stockholders, consultants, attorneys, accountants, advisors, brokers, representatives or controlling persons, in each case relating to the Stockholders' Representative's conduct as Stockholders' Representative, other than such losses, liabilities or expenses resulting from the Stockholders' Representative's gross negligence or willful misconduct in connection with its performance under this Agreement and the Escrow Agreement. This indemnification shall survive the termination of this Agreement. The costs of such indemnification (including the costs and expenses of enforcing this right of indemnification) shall be paid from the principal portion of the Reimbursement Fund (or, to the extent the Reimbursement Fund is insufficient to satisfy such costs and expenses, from the Escrow Fund). For all purposes hereunder, a majority in interest of the Stockholders shall be determined on the basis of each Stockholder's ownership of Company Common Stock immediately prior to the Effective Time (assuming the exercise or conversion of all Company Preferred Stock and Company Warrants outstanding immediately prior to the Effective Time). The Stockholders' Representative may, in all questions arising under this Agreement, rely on the advice of counsel, independent public accountants and other experts selected by it, and for anything done, omitted or suffered in good faith by the Stockholders' Representative in accordance with such advice, the Stockholders' Representative shall not be liable to the Stockholders or the Escrow Agent or any other person. In no event shall the Stockholders' Representative be liable hereunder or in connection herewith for (i) any indirect, punitive, special or consequential damages, or (ii) any amounts other than those that are satisfied out of the Reimbursement Fund or, to the extent provided for herein, the Escrow Fund. The Escrow Agent shall from time to time sell such amount of the Escrow Shares as necessary to pay such Stockholders' Representative's costs and expenses, to the extent that the Reimbursement Fund is insufficient for such purpose.

(d) Access to Information. The Stockholders' Representative shall have reasonable access to information of and concerning any Indemnity Claim and which is in the possession, custody or control of CIENA and the reasonable assistance of CIENA's officers and employees for purposes of performing the Stockholders' Representative's duties under this Agreement or the Escrow Agreement and exercising its rights under this Agreement and the Escrow Agreement, including for the purpose of evaluating any Indemnity Claim against the Escrow Amount by CIENA; provided that the Stockholders' Representative shall treat confidentially and not, except in connection with enforcing its rights or the rights of the Stockholders hereunder or under this Agreement and the Escrow Agreement, disclose any nonpublic information from or concerning any Indemnity Claim to anyone (except to the Stockholders' Representative's attorneys, accountants or other advisers, to Stockholders, to the arbitrators appointed to resolve disputes pursuant to this Agreement, and on a need-to-know basis to other individuals who agree to keep such information confidential).

(e) Reasonable Reliance. In the performance of his duties hereunder, the Stockholders' Representative shall be entitled to rely upon any document or instrument reasonably believed by him to be genuine, accurate as to content and signed by any Stockholder or CIENA. The Stockholders' Representative may assume that any person purporting to give any notice in accordance with the provisions hereof has been duly authorized to do so.

(f) Attorney-in-Fact.

(i) The Stockholders' Representative is hereby appointed and constituted the true and lawful attorney-in-fact of each Stockholder other than a holder of Dissenting Shares, with full power in his, her or its name and on his, her or its behalf to act according to the terms of this Agreement and the Escrow Agreement in the absolute discretion of the Stockholders' Representative; and in general to do all things and to perform all acts including, without limitation, executing and delivering the Escrow Agreement and any other agreements, certificates, receipts, instructions, notices or instruments contemplated by or deemed advisable in connection with the Escrow Agreement.

(ii) This power of attorney and all authority hereby conferred is granted and shall be irrevocable and shall not be terminated by any act of any Stockholder, by operation of law, whether by such Stockholder's death, disability or protective supervision or by any other event. Without limitation to the foregoing, this power of attorney is to ensure the performance of a special obligation and, accordingly, each Stockholder hereby renounces its, his or her right to renounce this power of attorney unilaterally any time before the end of the Escrow Period (as such term is defined in the Escrow Agreement).

(iii) Each Stockholder hereby waives any and all defenses which may be available to contest, negate or disaffirm the action of the Stockholders' Representative taken in good faith under the Escrow Agreement.

(iv) Notwithstanding the power of attorney granted in this **Section 6.4**, no agreement, instrument, acknowledgement or other act or document shall be ineffective by reason only of the Stockholders having signed or given such directly instead of the Stockholders' Representative.

(g) Liability. If the Stockholders' Representative is required by the terms hereof or the Escrow Agreement to determine the occurrence of any event or contingency, the Stockholders' Representative shall, in making such determination, be liable to the Stockholders only for his proven gross negligence or willful misconduct as determined in light of all the circumstances, including the time and facilities available to him in the ordinary conduct of business. In determining the occurrence of any such event or contingency, the Stockholders' Representative may request from any of the Stockholders or any other person such reasonable additional evidence as the Stockholders' Representative in his sole discretion may deem necessary to determine any fact relating to the occurrence of such event or contingency, and may at any time inquire of and consult with others, including any of the Stockholders, and the Stockholders' Representative shall not be liable to any Stockholder for any damages resulting from his delay in acting hereunder pending his receipt and examination of additional evidence requested by him.

(h) Orders. The Stockholders' Representative is authorized, in his sole discretion, to comply with final, nonappealable orders or decisions issued or process entered by any court of competent jurisdiction or arbitrator with respect to the Escrow Fund or the Reimbursement Fund. If any portion of the Escrow Fund or the Reimbursement Fund is disbursed to the Stockholders' Representative and is at any time attached, garnished or levied upon under any court order, or in case the payment, assignment, transfer, conveyance or delivery of any such property shall be stayed or enjoined by any court order, or in case any order, judgment or decree shall be made or entered by any court affecting such property or any part thereof, then and in any such event, the Stockholders' Representative is authorized, in his sole discretion, but in good faith, to rely upon and comply with any such order, writ, judgment or decree which he is advised by legal counsel selected by him is binding upon him without the need for appeal or other action; and if the Stockholders' Representative complies with any such order, writ, judgment or decree, he shall not be liable to any Stockholder or to any other Person by reason of such compliance even though such order, writ, judgment or decree may be subsequently reversed, modified, annulled, set aside or vacated.

(i) Removal of Stockholders' Representative; Authority of Successor Stockholders' Representative. Stockholders (or the successors or assigns thereto) who in the aggregate hold not less than a 61% interest in the Escrow Fund shall have the right at any time during the term of the Escrow Agreement to remove the then-acting Stockholders' Representative and to appoint a successor Stockholders' Representative; provided, however, that neither such removal of the then-acting Stockholders' Representative nor such appointment of a successor Stockholders' Representative shall be effective until the delivery to the Escrow Agent of executed counterparts of a writing signed by each such Stockholder with respect to such removal and appointment, together with an acknowledgment signed by the successor Stockholders' Representative appointed in such writing that he or she accepts the responsibility of successor Stockholders' Representative and agrees to perform and be bound by all of the provisions of this Agreement and the Escrow Agreement applicable to the Stockholders' Representative. Each successor Stockholders' Representative shall have all of the power, authority, rights and privileges conferred by this Agreement upon the original Stockholders' Representative, and the term "Stockholders' Representative" as used

herein and in the Escrow Agreement shall be deemed to include any interim or successor Stockholders' Representative.

(j) Expenses of the Stockholders' Representative. The Stockholders' Representative shall be entitled to withdraw cash amounts held in the Reimbursement Fund (or as provided for in the Escrow Agreement from the Escrow Fund) in reimbursement for out-of-pocket fees and expenses (including legal, accounting and other advisors' fees and expenses, if applicable) incurred by the Stockholders' Representative in performing under this Agreement and the Escrow Agreement. The Stockholders (i) shall have no claim or cause of action against, may not assert any claim against, and shall indemnify and hold harmless the Stockholders' Representative and each of its Affiliates and any of their respective partners, directors, officers, employees, agents, stockholders, consultants, attorneys, accountants, advisors, brokers, representatives or controlling persons, as provided for in **Section 6.4(c)** above; and (ii) shall pay to the Stockholders' Representative, promptly upon request, such Stockholder's pro rata share of any amounts paid by the Stockholders' Representative on behalf of the Stockholders and all costs and expenses (including legal, accounting and other advisors' fees and expenses, if applicable) incurred by the Stockholders' Representative in connection with the protection, defense or enforcement of any rights under this Agreement or the Escrow Agreement to the extent such costs, expenses and other amounts exceed the amount available to the Stockholders' Representative in the Reimbursement Fund or the Escrow Fund.

(k) Irrevocable Appointment. Subject to **Section 6.4(i)**, the appointment of the Stockholders' Representative hereunder is irrevocable and any action taken by the Stockholders' Representative pursuant to the authority granted in this **Section 6.4** shall be effective and absolutely binding on the Company and each stockholder thereof notwithstanding any contrary action of, or direction from, the Company or any Stockholder, except for actions taken by the Stockholders' Representative which are in bad faith.

(l) CIENA's Reliance. CIENA shall not be obliged to inquire into the authority of the Stockholders' Representative, and CIENA shall be fully protected in dealing with the Stockholders' Representative in good faith.

(m) Binding Appointment. The provisions of this Agreement, including without limitation **Article VI** hereof, shall be binding upon each Stockholder and the executors, heirs, legal representatives and successors of each Stockholder, and any references in this Agreement to a Stockholder or the Stockholders shall mean and include the successors to the Stockholders' rights hereunder, whether pursuant to testamentary disposition, the laws of descent and distribution or otherwise.

SECTION 6.5. Defense of Third Party Claims.

With respect to any claims or demands by third parties as to which CIENA may seek indemnification hereunder, whenever CIENA will have received a written notice that such a claim or demand has been asserted or threatened, CIENA will promptly notify the Stockholders' Representative of such claim or demand and of the facts within CIENA's knowledge that relate thereto within a reasonable time after receiving such written notice. The Stockholders' Representative will then have the right to defend, contest, negotiate or settle any such claim or demand through counsel of its own selection (who shall be reasonably acceptable to CIENA), at the Stockholders' own cost and expense, which costs and expenses will be payable out of the Reimbursement Fund and the Escrow Fund as provided for in the Escrow Agreement, and CIENA shall cooperate with and assist the Stockholders' Representative in the defense of such claim or demand. Notwithstanding the preceding sentence, the Stockholders' Representative will not settle, compromise, or offer to settle or compromise any such claim or demand unless CIENA and the CIENA Indemnified Parties are unconditionally released or without the prior written consent of CIENA, which consent will not be unreasonably withheld. If the Stockholders' Representative gives notice to CIENA within twenty Business Days after CIENA has notified the Stockholders' Representative that any such claim or demand has been made in writing, that the Stockholders' Representative elects to have CIENA defend, contest, negotiate, or settle any such claim or demand, then CIENA will have the right to contest and/or settle any such claim or demand and the Stockholders' Representative shall cooperate with and assist CIENA in the defense of such claim or demand, *provided, however*, that CIENA will not settle,

compromise, or offer to settle or compromise any such claim or demand without the prior written consent (which may include a general or limited consent) of the Stockholders' Representative, which consent will not be unreasonably withheld. In the event that the Stockholders' Representative has consented to any settlement, the Stockholders shall have no power or authority to object under any provision of this Agreement to the amount of such settlement.

SECTION 6.6. Maximum Payments; Remedy.

Notwithstanding anything to the contrary herein, the existence of this Article and of the rights and restrictions set forth herein do not limit any legal remedy against the parties hereto for claims based on fraud. No Stockholder shall have any right to contribution from the Company for any claim made by CIENA or the Surviving Company with respect to any Loss claimed by CIENA after the Effective Time.

ARTICLE VII

GENERAL; TERMINATION

SECTION 7.1. Expenses.

Regardless of whether or not the transactions contemplated hereby have been consummated at the Closing, each party hereto shall pay its own expenses incidental to the preparation of this Agreement, the carrying out of the provisions of this Agreement and the consummation of the transactions contemplated hereby. Following the Effective Time, CIENA will not be liable for the Company's expenses in connection with the Merger (including bankers, accountants and lawyers, as well as any payments required in connection with consents to be obtained, employee entitlements as a result of change in control or non-standard severance provisions (excluding customary and usual severance and any accelerated vesting of Company Options required by **Section 4.9** hereof or pursuant to any agreement between CIENA and any holder of Company Options to be effective as of the Effective Time), tax gross-ups or otherwise) in excess of \$3,000,000, and any expenses in excess thereof shall be recoverable by CIENA to the extent necessary from the Escrow Amount.

SECTION 7.2. Press Releases.

Neither the Company nor CIENA shall issue any press release or otherwise make public any information with respect to this Agreement nor the transactions contemplated hereby, prior to the Closing, without the prior written consent of the other, except as may be required by law or Nasdaq regulations. Notwithstanding the prior sentence, the parties shall issue a joint initial press release announcing the execution of this Agreement as may be mutually agreed.

SECTION 7.3. Contents of Agreement; Parties in Interest; Etc.

This Agreement and the agreements referred to or contemplated herein and the letter agreement dated June 1, 2003, concerning confidentiality (the "Confidentiality Agreement") set forth the entire understanding of the parties hereto with respect to the transactions contemplated hereby, and, except as set forth in this Agreement, such other agreements and the Exhibits hereto and the Confidentiality Agreement, there are no representations or warranties, express or implied, made by any party to this Agreement with respect to the subject matter of this Agreement and the Confidentiality Agreement. Except for the matters set forth in the Confidentiality Agreement, any and all previous agreements and understandings between or among the parties regarding the subject matter hereof, whether written or oral, are superseded by this Agreement and the agreements referred to or contemplated herein.

SECTION 7.4. Assignment and Binding Effect.

This Agreement may not be assigned by either party hereto without the prior written consent of the other party. All the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective successors and assigns of the parties hereto.

SECTION 7.5. Termination.

(a) Termination by Mutual Consent. This Agreement may be terminated and the Merger may be abandoned at any time prior to the Effective Time, whether before or after the approval by Stockholders of the Company referred to in **Section 5.1(d)**, by mutual written consent of the Company and CIENA.

(b) Termination by Either CIENA or the Company. This Agreement may be terminated and the Merger may be abandoned at any time prior to the Effective Time by action of the Board of Directors of either CIENA or the Company if (i) the Merger shall not have been consummated by July 31, 2004, whether such date is before or after the date of approval by the Stockholders of the Company (the "Termination Date"); (ii) the approval of Stockholders required by **Section 5.1(d)** shall not have been obtained at the Stockholders' Meeting or at any adjournment or postponement thereof, or, subject to **Section 4.6**, by the Company's solicitation of the written consent of Stockholders in lieu of the Stockholders' Meeting, or (iii) any Order permanently restraining, enjoining or otherwise prohibiting consummation of the Merger shall become final and non-appealable; provided, that the right to terminate this Agreement pursuant to clause (i) above shall not be available to any party that has breached its obligations under this Agreement in any manner that shall have caused the occurrence of the failure of the Merger to be consummated or the stockholder approval to be obtained.

(c) Termination by the Company. This Agreement may be terminated and the Merger may be abandoned at any time prior to the receipt of the approval of the Company's Stockholders required by **Section 5.1(d)**, by action of the Board of Directors of the Company:

(i) if (A) the Company is not in material breach of any of the terms of this Agreement, (B) the Board of Directors of the Company authorizes the Company, subject to complying with the terms of this Agreement, to enter into a binding written agreement concerning a transaction that constitutes a Superior Proposal and the Company notifies CIENA in writing that it intends to enter into such an agreement, attaching the most current version of such agreement to such notice if available or, if not available, including all material terms and conditions of such agreement in the notice, (C) CIENA does not make, within two Business Days of receipt of the Company's written notification of its intention to enter into a binding agreement for a Superior Proposal, an offer that the Board of Directors of the Company determines, in good faith after consultation with its outside legal counsel and its financial advisors, is at least as favorable to the Stockholders of the Company as the Superior Proposal, and (D) the Company prior to such termination pays to CIENA in immediately available funds the fees required to be paid pursuant to **Section 7.5(e)**. The Company agrees (1) that it will not enter into a binding agreement referred to in clause (B) above until at least the third Business Day after it has provided the notice to CIENA required thereby and (2) to notify CIENA promptly if its intention to enter into a written agreement referred to in its notification shall change at any time after giving such notification; or

(ii) if it is not in material breach of its obligations under the Agreement and there is a breach by CIENA of any material representation, warranty, covenant or agreement contained in this Agreement and such breach has not been cured within ten (10) days after written notice thereof to CIENA, or such breach cannot be cured, and would cause a condition set forth in **Section 5.3** to be incapable of being satisfied.

(d) Termination by CIENA. This Agreement may be terminated and the Merger may be abandoned at any time prior to the Effective Time, whether before or after the receipt of the approval of the Company's Stockholders required by **Section 5.1(d)**, by written notice given to the Company by CIENA:

(i) if the Company or its Board of Directors shall have (A) withdrawn, modified or amended in any respect adverse to CIENA its recommendation of the adoption of this Agreement or failed to reconfirm its recommendation of this Agreement or the Merger within three Business Days after a written request by CIENA to do so ("Change in the Board Recommendation"), or

(B) recommended or entered into an agreement with respect to, or consummated, any Acquisition Proposal from a person other than CIENA or any of its Affiliates; or

(ii) if it is not in material breach of its obligations under the Agreement and there is a breach by the Company of any material representation, warranty, covenant or agreement contained in this Agreement and such breach has not been cured within ten (10) days after written notice thereof to the Company or such breach cannot be cured and would cause a condition set forth in **Section 5.2** to be incapable of being satisfied.

(e) Effect of Termination and Abandonment.

(i) In the event of termination of this Agreement and the abandonment of the Merger pursuant to this **Section 7.5**, this Agreement (other than as set forth in this **Section 7.5(e)**) shall become void and of no effect with no liability on the part of any party hereto (or of any of its directors, officers, employees, agents, legal and financial advisors or other representatives); provided, however, except as otherwise provided herein, no such termination shall relieve any party hereto of any liability or damages resulting from any willful breach of this Agreement.

(ii) In the event that this Agreement is terminated (A) by the Company pursuant to **Section 7.5(c)(i)** or (B) by CIENA pursuant to **Section 7.5(d)(i)**, then the Company shall (1) promptly, but in no event later than the earlier of the date of such termination or date of entrance into an agreement concerning an Acquisition Proposal or such earlier time as required by this Agreement, pay to CIENA a termination fee of \$6,000,000 (the "Termination Fee") payable by wire transfer of same day funds and (2) in no event later than two Business Days after CIENA shall have requested payment of its charges and expenses incurred in connection with the transactions contemplated hereby, pay to CIENA the amount of such charges and expenses up to a maximum of \$500,000 payable by wire transfer of same day funds.

(iii) In the event that this Agreement is terminated pursuant to **Section 7.5(b)(ii)** and at or prior to the time of the Company Stockholders' Meeting, or subject to **Section 4.6**, at or prior to the expiration date in connection with the Company's solicitation of written consents of Stockholders in lieu of the Stockholders' Meeting, any Person shall have made an Acquisition Proposal to the Company or any of its Stockholders or shall have publicly announced an intention (whether or not conditional) to make an Acquisition Proposal with respect to the Company (the "Triggering Proposal"), if within 12 months of such termination the Company enters into an agreement concerning a transaction with the person that made that Triggering Proposal, the Company shall (A) at the time of entering into such agreement, pay to CIENA the Termination Fee payable by wire transfer of same day funds and (B) in no event later than two Business Days after CIENA shall have requested payment of its charges and expenses incurred in connection with the transactions contemplated hereby, pay to CIENA the amount of such charges and expenses incurred in connection with the transactions contemplated hereby up to a maximum of \$500,000 payable by wire transfer of same day funds.

(iv) The Company and CIENA each acknowledge that the agreements contained in **Sections 7.5(e)(ii) and (iii)** are an integral part of the transactions contemplated by this Agreement, and that, without these agreements, the Company and CIENA would not enter into this Agreement; accordingly, if the Company fails to promptly pay the amounts due pursuant to this Section, and, in order to obtain such payment, CIENA commences a suit which results in a judgment against the Company for the fees set forth in this **Section 7.5**, the Company shall pay to CIENA its costs and expenses (including attorneys' fees) in connection with such suit, together with interest from the date of termination of this Agreement on the amounts owed at the prime rate of Wachovia Bank, N.A. in effect from time to time during such period plus two percent.

SECTION 7.6. Definitions.

As used in this Agreement the terms set forth below shall have the following meanings:

(a) “*Affiliate*” of a Person means any other Person who directly or indirectly through one or more intermediaries controls, is controlled by or is under common control with such Person. “Control” means the possession of the power, directly or indirectly, to direct or cause the direction of the management and policies of a Person whether through the ownership of voting securities, by contract or otherwise.

(b) “*Assets*” means assets of every kind and everything that is or may be available for the payment of liabilities (whether inchoate, tangible or intangible), including, without limitation, real and personal property but excluding Intellectual Property Rights.

(c) “*Business Day*” means a day other than Saturday or Sunday or a day on which banks are required or authorized to close in the State of Maryland or Delaware.

(d) “*CIENA Material Adverse Effect*” means a material adverse effect on the business, financial condition, Assets, liabilities or results of operations of CIENA and its Subsidiaries, taken as a whole; provided, however, that none of the following shall be deemed in themselves, either alone or in combination, to constitute, and none of the following shall be taken into account in determining whether there has been or will be, a CIENA Material Adverse Effect: (a) any adverse change, effect, event, occurrence, state of facts or development to the extent attributable to the announcement of the Merger (including any cancellations of or delays in customer orders, any reduction in sales, any disruption in supplier, distributor, partner or similar relationships or any loss of employees but only to the extent attributable to the announcement of the Merger); (b) any adverse change, effect, event, occurrence, state of facts or development attributable to conditions generally affecting the industries in which CIENA participates, the U.S. economy as a whole or foreign economies in any locations where CIENA has material operations, sales, suppliers or customers; or (c) any adverse change, effect, event, occurrence, state of facts or development resulting from or relating to compliance with the terms of, or the taking of any action required by, this Agreement.

(e) “*Code*” means the Internal Revenue Code of 1986, as amended.

(f) “*Company Material Adverse Effect*” means a material adverse effect on the business, financial condition, Assets, liabilities or results of operations of the Company; provided, however, that none of the following shall be deemed in themselves, either alone or in combination, to constitute, and none of the following shall be taken into account in determining whether there has been or will be, a Company Material Adverse Effect: (a) any adverse change, effect, event, occurrence, state of facts or development to the extent attributable to the announcement of the Merger (including any cancellations of or delays in customer orders, any reduction in sales, any disruption in supplier, distributor, partner or similar relationships or any loss of employees but only to the extent attributable to the announcement of the Merger); (b) any adverse change, effect, event, occurrence, state of facts or development attributable to conditions generally affecting the industries in which Company participates, the U.S. economy as a whole or foreign economies in any locations where Company has material operations, sales, suppliers or customers; or (c) any adverse change, effect, event, occurrence, state of facts or development resulting from or relating to compliance with the terms of, or the taking of any action required by, this Agreement.

(g) “*Encumbrances*” means Liens, security interests, deeds of trust, encroachments, reservations, orders of Governmental Entities, decrees, judgments, contract rights, claims or equity of any kind.

(h) “*Environmental Laws*” means all applicable federal, state, provincial, municipal, local or foreign laws, rules and regulations, bylaws, orders, decrees, judgments, common law theories based on nuisance, trespass, negligence or other tortious conduct, permits, filings and licenses relating (i) to protection and clean-up of the environment and activities or conditions related thereto, including those relating to the generation, handling, disposal, recycling, transportation or release of Hazardous

Materials and (ii) the health or safety of employees in the workplace environment, all as amended from time to time.

(i) “ERISA” means the Employee Retirement Income Security Act of 1974, as amended, and all Laws promulgated pursuant thereto or in connection therewith.

(j) “Exchange Agent” means a bank or trust company designated as the exchange agent by CIENA (which designation shall be reasonably acceptable to the Stockholders’ Representative).

(k) “Exchange Ratios” means the respective exchange ratios set forth in **Section 1.5(c)**.

(l) “Governmental Entity” means any United States or other national, state, provincial, municipal or local government, domestic or foreign, any subdivision, agency, entity, commission or authority thereof, or any quasi-governmental or private body exercising any regulatory, taxing, importing or other governmental or quasi-governmental authority.

(m) “Hazardous Materials” means any and all hazardous and toxic substances, wastes or materials, any pollutants, contaminants, radioactives or dangerous materials (including, but not limited to, polychlorinated biphenyls, PCBs, friable asbestos, volatile and semi-volatile organic compounds, oil, petroleum products and fractions, and any materials which include hazardous constituents or become hazardous, toxic, or dangerous when their composition or state is changed), or any other similar substances or materials which are included under or regulated by any Environmental Laws, provided, however, that such term shall not include any such substances intended for routine consumer or household use to the extent used in reasonable quantities and in material compliance with Environmental Laws.

(n) “Knowledge of the Company” or “Company’s Knowledge” means the actual knowledge of the Company’s Chief Executive Officer, Chief Financial Officer or Chief Technology Officer.

(o) “Laws” means all foreign, federal, state, provincial, municipal and local statutes, laws, ordinances, regulations, rules, policies, codes, resolutions, orders, determinations, writs, injunctions, awards (including, without limitation, awards of any arbitrator), judgments and decrees applicable to the specified persons or entities.

(p) “Liens” means any mortgage, pledge, lien, security interest, conditional or installment sale agreement, encumbrance, charge or other claims of third parties of any kind.

(q) “Ordinary Course of Business” means all actions taken by a Person if such action is consistent with the past practices of such Person and is taken in the ordinary course of the normal day-to-day operations of such Person.

(r) “Out of Money Options” means any Company Options outstanding at Closing, vested or unvested, with an exercise price equal to or greater than \$1.00 per share of Company Common Stock.

(s) “Permitted Encumbrances” means (i) Liens for Taxes not yet due or which are being contested in good faith by appropriate proceedings and for which adequate reserves have been established in accordance with applicable generally accepted accounting principles; (ii) such minor encumbrances, easements or reservations of, or rights of others for, sewers, electric lines, telegraph and telephone lines and other similar purposes, or zoning restrictions as to the use of real properties, which do not materially interfere with the use, occupation and enjoyment of the property subject to the Lien by and in connection with the applicable business; (iii) Liens incurred in the Ordinary Course of Business in connection with workers’ compensation, unemployment insurance and other types of social security; (iv) Liens in favor of customs authorities arising as a matter of law to secure payment of customs duties in connection with the importation of goods to the extent accrued on the relevant Financial Statements, and (v) mechanic’s and materialmen’s Liens arising by operation of law for sums not in default.

(t) “Person” means any individual, corporation, partnership, limited partnership, limited liability company, trust, association or entity or government agency or authority.

(u) “*Principal Officers*” means the Company’s Chief Executive Officer and Chief Financial Officer.

(v) “*Tax*” (and, with correlative meaning, “*Taxes*” and “*Taxable*”) means any federal, state, local or foreign net income, gross income, gross receipts, windfall profit, severance, property, production, sales, use, license, excise, franchise, employment, payroll, withholding, alternative or add-on minimum, ad valorem, value-added, transfer, stamp, or environmental tax, or any other tax, custom, duty, governmental fee or other like assessment or charge of any kind whatsoever, together with any interest or penalty, addition to tax or additional amount imposed by any taxing governmental entity.

(w) “*Tax Return*” means any return, report or similar statement required to be filed with respect to any Tax (including any attached schedules), including, without limitation, any information return, claim for refund, amended return or declaration of estimated Tax.

(x) “*Terminated Employees*” means any employees of the Company identified by CIENA as employees expected to be terminated by CIENA as of the Effective Time, and any other employees who are terminated by CIENA immediately following the Effective Time.

(y) “*Transitional Employees*” means any employees of the Company identified by CIENA as employees expected to remain employed by CIENA or the Surviving Company for a period not exceeding six (6) months following the Effective Time.

SECTION 7.7. Notices.

Any notice, request, demand, waiver, consent, approval, or other communication which is required or permitted to be given to any party hereunder shall be in writing and shall be deemed given only if delivered to the party personally or by nationally recognized overnight courier, or sent to the party by facsimile transmission (promptly followed by a hard-copy delivered in accordance with this **Section 7.7**) or by registered or certified mail (return receipt requested), with postage and registration or certification fees thereon prepaid, addressed to the party at its address set forth below:

If to CIENA:

CIENA Corporation
1201 Winterson Road
Linthicum, Maryland 21090
Attention: General Counsel

with a copy to:

Hogan & Hartson L.L.P.
111 South Calvert Street, 16th Floor
Baltimore, Maryland 21202
Attention: Michael J. Silver

If to the Company:

Internet Photonics, Inc.
1030 Broad Street, Suite 200
Shrewsbury, NJ 07702-4330
Attention: Steven M. Waszak

with a copy to:

Sonnenschein Nath & Rosenthal LLP
1221 Avenue of the Americas
New York, NY 10020
Attention: Michael R. Flynn

If to the Stockholders' Representative:

Sprout Capital IX, L.P.

Eleven Madison Avenue, 26th Floor
New York, New York 10010
Attention: Wayne Nemeth
Telecopy: (212) 538-8245

or to such other address or Person as any party may have specified in a notice duly given to the other party as provided herein. Such notice, request, demand, waiver, consent, approval or other communication will be deemed to have been given as of the date so delivered, faxed or mailed.

SECTION 7.8. Amendment.

This Agreement may be amended, modified or supplemented (i) at any time prior to the Effective Time, by mutual agreement of the respective Boards of Directors of the Company and CIENA, except as provided in Section 251(d) of the DGCL and (ii) at any time after the Effective Time, by mutual agreement of CIENA and the Stockholders' Representative. Any amendment, modification or revision of this Agreement and any waiver of compliance or consent with respect hereto shall be effective only if in a written instrument executed by the parties hereto.

SECTION 7.9. Governing Law.

This Agreement shall be governed by and interpreted and enforced in accordance with the laws of the State of Delaware as applied to contracts made and fully performed in such state.

SECTION 7.10. No Benefit to Others.

The representations, warranties, covenants and agreements contained in this Agreement are for the sole benefit of the parties hereto, and their respective successors and assigns, and they shall not be construed as conferring, and are not intended to confer, any rights on any other Person except as provided in **Articles I, IV and VI.**

SECTION 7.11. Severability.

If any term or other provision of this Agreement is determined to be invalid, illegal or incapable of being enforced by any rule of law or public policy, all other terms and provisions of the Agreement shall remain in full force and effect. Upon such determination, the parties hereto shall negotiate in good faith to modify this Agreement so as to give effect to the original intent of the parties to the fullest extent permitted by applicable law.

SECTION 7.12. Section Headings.

All section headings are for convenience only and shall in no way modify or restrict any of the terms or provisions hereof.

SECTION 7.13. Schedules and Exhibits.

All Schedules and Exhibits referred to herein are intended to be and hereby are specifically made a part of this Agreement.

SECTION 7.14. Extensions.

At any time prior to the Effective Time, CIENA, on the one hand, and the Company on the other may by corporate action, extend the time for compliance by or waive performance of any representation, warranty, condition or obligation of the other party subject to the provisions of **Section 7.8** regarding the manner of waiver.

SECTION 7.15. Counterparts.

This Agreement may be executed, including by facsimile, in two or more counterparts, each of which shall be deemed an original, and the Company and CIENA may become a party hereto by executing a counterpart hereof. This Agreement and any counterpart so executed shall be deemed to be one and the same instrument.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF, the parties hereto, intending to be legally bound hereby, have duly executed this Agreement and Plan of Merger as of the date first above written.

CIENA CORPORATION

By: /s/ GARY B. SMITH

Name: Gary B. Smith
Title: President and Chief Executive Officer

INTERNET PHOTONICS, INC.

By: /s/ STEVEN M. WASZAK

Name: Steven M. Waszak
Title: Chief Financial Officer

PRINCIPAL OFFICERS

By: /s/ GREGORY W. KOSS

Gregory W. Koss

By: /s/ STEVEN M. WASZAK

Steven M. Waszak

STOCKHOLDERS' REPRESENTATIVE

Solely with respect to Section 6.4:
Sprout Capital IX, L.P.

By: DLJ Capital Corporation,
its managing general partner

By: /s/ WAYNE L. NEMETH

Name: Wayne L. Nemeth
Title: Director

GLOSSARY OF DEFINED TERMS

<i>DEFINED TERM</i>	<i>LOCATION OF DEFINITION</i>
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Agreement	Preamble
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CIENA	Preamble
CIENA Benefit Plans	Section 4.13
CIENA Charter Documents	Section 3.2
CIENA Common Stock	Section 1.5
CIENA Indemnification Threshold	Section 6.2
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DGCL	Recitals
Dissenting Shares	Section 1.7
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<i>DEFINED TERM</i>	<i>LOCATION OF DEFINITION</i>
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Exchange Fund	Section 1.8
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DEFINED TERM
Termination Fee
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Triggering Proposal

LOCATION OF DEFINITION
Section 7.5
Section 7.6
Section 4.6

FIRST AMENDMENT TO AGREEMENT AND PLAN OF MERGER

THIS FIRST AMENDMENT TO AGREEMENT AND PLAN OF MERGER (this "First Amendment") is made as of March 17, 2004 by and among **CIENA CORPORATION**, a Delaware corporation ("CIENA"), and **INTERNET PHOTONICS, INC.**, a Delaware corporation (the "Company").

RECITALS

WHEREAS, CIENA, the Principal Officers and the Company are parties to that certain Agreement and Plan of Merger dated as of February 18, 2004 (the "Merger Agreement");

WHEREAS, the Company desires to adopt the INTERNET PHOTONICS, INC. RETENTION PLAN in the form attached hereto as Schedule A (the "Plan") and to make payments pursuant to the terms of the Plan to the persons indicated therein;

WHEREAS, CIENA and the Company desire to amend certain terms of the Merger Agreement to permit the adoption of the Plan and payment of such amounts contemplated thereunder; and

NOW, THEREFORE, in consideration of the foregoing and the mutual representations, warranties, covenants and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto intending to be legally bound do hereby agree as follows:

SECTION 1. Amendments to Merger Agreement

The following amendments to the Merger Agreement are made hereby:

1.1 Amendment to Section 1.5(c) of the Merger Agreement. The definition of "Aggregate Share Consideration" in Section 1.5(c) is hereby deleted and the following inserted in lieu thereof:

"24,080,843 shares of CIENA Common Stock"

1.2 Amendment to Sections 4.2(b)(vii), (viii), (xi) and (xii) of the Merger Agreement. Sections 4.2(b)(vii), (viii), (xi) and (xii) are hereby amended to read in their entirety as follows:

"(vii) enter into any contract or agreement other than in the Ordinary Course of Business except for the Internet Photonics, Inc. Retention Plan and the payment obligations thereunder (the "Plan");

(viii) authorize any capital commitment or capital lease which is in excess of \$100,000 or capital expenditures which are, in the aggregate, in excess of \$500,000 (other than pursuant to the Plan);

(xi) enter into or agree to enter into any employment agreement (other than the Plan or any offer letters for non-executive new hires entered into in the Ordinary Course of Business);

(xii) except as required by any written agreement set forth on **Schedule 2.10** or **2.17** hereto, increase the compensation payable or to become payable to its officers or employees other than pursuant to the Plan, or grant any severance or termination pay to, or enter into any severance agreement with any director, officer or other employee of the Company, or establish, adopt, enter into or amend any collective bargaining, bonus, profit sharing, thrift, compensation, stock option, restricted stock, pension, retirement, deferred compensation, employment, termination, severance or other plan, agreement, trust, fund, policy or arrangement for the benefit of any such director, officer or employee other than the Plan, except that the Company may make any amendments to existing employee benefit plans to the extent necessary to maintain their compliance with applicable Laws;"

1.3 Amendment to Section 5.2(a) of the Merger Agreement. Section 5.2(a) is hereby amended to read in its entirety as follows:

"(a) Performance of Obligations; Representations and Warranties. The Company shall have performed in all material respects and complied in all material respects with all agreements and covenants

contained in this Agreement that are required to be performed or complied with by it prior to or at the Closing. The Company's representations and warranties contained in **Article II** of this Agreement shall be true and correct on and as of the Closing except (i) for changes permitted by this Agreement, (ii) to the extent that such representations and warranties expressly relate to an earlier date, in which case such representations and warranties shall be true and correct as of such earlier date, (iii) to the extent that such representations and warranties would be rendered untrue or incorrect solely as a result of the adoption of the Plan and payment of any amounts thereunder expressly permitted under **Sections 4.2(b)(xi) and (xii)**, and (iv) to the extent such failures to be true and correct would not, individually or in the aggregate, have a Company Material Adverse Effect. CIENA shall have received a certificate dated the Closing Date and signed by the Chief Executive Officer, President or a Vice President of the Company, certifying that the conditions specified in this **Section 5.2(a)** have been satisfied. In addition, the Company's Chief Executive Officer and Chief Financial Officer shall execute and deliver to CIENA a bring-down certification dated the Closing Date in the form attached as **Exhibit B** attached hereto."

1.4 Amendment to Section 6.2(b) of the Merger Agreement. Section 6.2(b) is hereby amended by inserting a new clause (iii) as follows:

"(iii) Notwithstanding anything in this Agreement to the contrary, the CIENA Indemnified Parties shall not be entitled to indemnification for any Losses incurred directly or indirectly as a result of (A) any inaccuracy or a representation or breach of a warranty of the Company contained in this Agreement or contained in any certificate described in **Section 5.2(a)**, or (B) any failure by the Company to perform or comply with any covenant or agreement contained in this Agreement, in each case to the extent that such inaccuracy, breach or failure is the result of the adoption of the Plan and payment of any amounts thereunder expressly permitted under **Sections 4.2(b)(xi) and (xii)** of this Agreement."

SECTION 2. Representations and Warranties

2.1 (a) Authority of the Company. On or prior to the date of this First Amendment, the Board of Directors of the Company has declared the Merger (on terms and conditions set forth in the Merger Agreement as amended by this First Amendment) advisable and fair to and in the best interest of the Company and its stockholders, approved and adopted this First Amendment in accordance with the DGCL, confirmed its resolution to recommend the approval and adoption of the Merger Agreement (as amended hereby) by the Company's Stockholders and directed that the Merger Agreement (as amended hereby) be submitted to the Company's Stockholders for approval and adoption. The Company has all requisite corporate power and authority to enter into this First Amendment and to consummate the transactions contemplated by the Merger Agreement, as amended hereby. The execution and delivery of this First Amendment by the Company and the consummation by the Company of the transactions contemplated by the Merger Agreement, as amended hereby, have been duly authorized by all necessary corporate action on the part of the Company, subject, in the case of the Merger Agreement, as amended hereby, only to (x) approval of holders of Company Capital Stock representing the Company Requisite Stockholder Approval, and (y) the filing of appropriate Merger documents as required by the DGCL. This First Amendment has been duly executed and delivered by the Company and, assuming the due authorization, execution and delivery of this First Amendment by CIENA, constitutes a legal, valid and binding obligation of the Company, enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws of general applicability relating to or affecting creditors' rights generally and by the application of general principles of equity.

(b) Parachute Payments by the Company. No amount required to be paid or payable to or with respect to any employee or other service provider of the Company in connection with the Plan, together with any amounts required to be paid or payable with respect to the transactions contemplated by the Merger Agreement (either solely as a result thereof or as a result of such transactions in conjunction with any other event) will be an "excess parachute payment" within the meaning of Section 280G of the Code. No employee or other service provider of the Company is entitled to a tax gross-up payment from the

Company with regard to “parachute payments” under Section 280G of the Code in connection with the amounts required to be paid or payable under the Plan, together with any amounts required to be paid or payable with respect to the transactions contemplated the Merger Agreement.

2.2 Authority of CIENA. The execution and delivery of this First Amendment by CIENA and the consummation by CIENA of the transactions contemplated by the Merger Agreement, as amended hereby, have been duly and validly authorized by all necessary corporate action and no other corporate proceedings on the part of CIENA are necessary to authorize this First Amendment or to consummate the transactions contemplated by the Merger Agreement, as amended hereby. This First Amendment has been duly executed and delivered by CIENA and, assuming the due authorization, execution and delivery by the Company, constitutes a legal, valid and binding obligation of CIENA, enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws of general applicability relating to or affecting creditors’ rights generally and by the application of general principles of equity.

SECTION 3. Miscellaneous

3.1 Merger Agreement. The terms and provisions of the Merger Agreement, except as specifically amended hereby, shall remain in full force and effect. All references to the Merger Agreement contained therein shall mean the Merger Agreement, as amended hereby. Except as otherwise defined or modified herein, all capitalized terms used in this First Amendment shall have the meanings set forth in the Merger Agreement.

3.2 Counterparts. This First Amendment may be executed in two or more counterparts, each of which shall be deemed an original, and the Company and CIENA may become a party hereto by executing a counterpart hereof. This Agreement and any counterpart so executed shall be deemed to be one and the same instrument.

3.3 Governing Law. This First Amendment shall be governed by and interpreted and enforced in accordance with the laws of the State of Delaware as applied to contracts made and fully performed in such state.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF, the parties hereto, intending to be legally bound hereby, have duly executed this First Amendment to Agreement and Plan of Merger as of the date first above written.

CIENA CORPORATION

By: /s/ RUSSELL B. STEVENSON, JR.

Name: Russell B. Stevenson, Jr.
Title: Senior Vice President, General
Counsel and Secretary

INTERNET PHOTONICS, INC.

By: /s/ STEVEN M. WASZAK

Name: Steven M. Waszak
Title: Chief Financial Officer

DELAWARE GENERAL CORPORATION LAW

SECTION 262

§ 262 Appraisal rights.

(a) Any stockholder of a corporation of this State who holds shares of stock on the date of the making of a demand pursuant to subsection (d) of this section with respect to such shares, who continuously holds such shares through the effective date of the merger or consolidation, who has otherwise complied with subsection (d) of this section and who has neither voted in favor of the merger or consolidation nor consented thereto in writing pursuant to § 228 of this title shall be entitled to an appraisal by the Court of Chancery of the fair value of the stockholder's shares of stock under the circumstances described in subsections (b) and (c) of this section. As used in this section, the word "stockholder" means a holder of record of stock in a stock corporation and also a member of record of a nonstock corporation; the words "stock" and "share" mean and include what is ordinarily meant by those words and also membership or membership interest of a member of a nonstock corporation; and the words "depository receipt" mean a receipt or other instrument issued by a depository representing an interest in one or more shares, or fractions thereof, solely of stock of a corporation, which stock is deposited with the depository.

(b) Appraisal rights shall be available for the shares of any class or series of stock of a constituent corporation in a merger or consolidation to be effected pursuant to § 251 (other than a merger effected pursuant to § 251(g) of this title), § 252, § 254, § 257, § 258, § 263 or § 264 of this title:

(1) Provided, however, that no appraisal rights under this section shall be available for the shares of any class or series of stock, which stock, or depository receipts in respect thereof, at the record date fixed to determine the stockholders entitled to receive notice of and to vote at the meeting of stockholders to act upon the agreement of merger or consolidation, were either (i) listed on a national securities exchange or designated as a national market system security on an interdealer quotation system by the National Association of Securities Dealers, Inc. or (ii) held of record by more than 2,000 holders; and further provided that no appraisal rights shall be available for any shares of stock of the constituent corporation surviving a merger if the merger did not require for its approval the vote of the stockholders of the surviving corporation as provided in subsection (f) of § 251 of this title.

(2) Notwithstanding paragraph (1) of this subsection, appraisal rights under this section shall be available for the shares of any class or series of stock of a constituent corporation if the holders thereof are required by the terms of an agreement of merger or consolidation pursuant to §§ 251, 252, 254, 257, 258, 263 and 264 of this title to accept for such stock anything except:

a. Shares of stock of the corporation surviving or resulting from such merger or consolidation, or depository receipts in respect thereof;

b. Shares of stock of any other corporation, or depository receipts in respect thereof, which shares of stock (or depository receipts in respect thereof) or depository receipts at the effective date of the merger or consolidation will be either listed on a national securities exchange or designated as a national market system security on an interdealer quotation system by the National Association of Securities Dealers, Inc. or held of record by more than 2,000 holders;

c. Cash in lieu of fractional shares or fractional depository receipts described in the foregoing subparagraphs a. and b. of this paragraph; or

d. Any combination of the shares of stock, depository receipts and cash in lieu of fractional shares or fractional depository receipts described in the foregoing subparagraphs a., b. and c. of this paragraph.

(3) In the event all of the stock of a subsidiary Delaware corporation party to a merger effected under § 253 of this title is not owned by the parent corporation immediately prior to the merger, appraisal rights shall be available for the shares of the subsidiary Delaware corporation.

(c) Any corporation may provide in its certificate of incorporation that appraisal rights under this section shall be available for the shares of any class or series of its stock as a result of an amendment to its certificate of incorporation, any merger or consolidation in which the corporation is a constituent corporation or the sale of all or substantially all of the assets of the corporation. If the certificate of incorporation contains such a provision, the procedures of this section, including those set forth in subsections (d) and (e) of this section, shall apply as nearly as is practicable.

(d) Appraisal rights shall be perfected as follows:

(1) If a proposed merger or consolidation for which appraisal rights are provided under this section is to be submitted for approval at a meeting of stockholders, the corporation, not less than 20 days prior to the meeting, shall notify each of its stockholders who was such on the record date for such meeting with respect to shares for which appraisal rights are available pursuant to subsection (b) or (c) hereof that appraisal rights are available for any or all of the shares of the constituent corporations, and shall include in such notice a copy of this section. Each stockholder electing to demand the appraisal of such stockholder's shares shall deliver to the corporation, before the taking of the vote on the merger or consolidation, a written demand for appraisal of such stockholder's shares. Such demand will be sufficient if it reasonably informs the corporation of the identity of the stockholder and that the stockholder intends thereby to demand the appraisal of such stockholder's shares. A proxy or vote against the merger or consolidation shall not constitute such a demand. A stockholder electing to take such action must do so by a separate written demand as herein provided. Within 10 days after the effective date of such merger or consolidation, the surviving or resulting corporation shall notify each stockholder of each constituent corporation who has complied with this subsection and has not voted in favor of or consented to the merger or consolidation of the date that the merger or consolidation has become effective; or

(2) If the merger or consolidation was approved pursuant to § 228 or § 253 of this title, then, either a constituent corporation before the effective date of the merger or consolidation, or the surviving or resulting corporation within ten days thereafter, shall notify each of the holders of any class or series of stock of such constituent corporation who are entitled to appraisal rights of the approval of the merger or consolidation and that appraisal rights are available for any or all shares of such class or series of stock of such constituent corporation, and shall include in such notice a copy of this section. Such notice may, and, if given on or after the effective date of the merger or consolidation, shall, also notify such stockholders of the effective date of the merger or consolidation. Any stockholder entitled to appraisal rights may, within 20 days after the date of mailing of such notice, demand in writing from the surviving or resulting corporation the appraisal of such holder's shares. Such demand will be sufficient if it reasonably informs the corporation of the identity of the stockholder and that the stockholder intends thereby to demand the appraisal of such holder's shares. If such notice did not notify stockholders of the effective date of the merger or consolidation, either (i) each such constituent corporation shall send a second notice before the effective date of the merger or consolidation notifying each of the holders of any class or series of stock of such constituent corporation that are entitled to appraisal rights of the effective date of the merger or consolidation or (ii) the surviving or resulting corporation shall send such a second notice to all such holders on or within 10 days after such effective date; provided, however, that if such second notice is sent more than 20 days following the sending of the first notice, such second notice need only be sent to each stockholder who is entitled to appraisal rights and who has demanded appraisal of such holder's shares in accordance with this subsection. An affidavit of the secretary or assistant secretary or of the transfer agent of the corporation that is required to give either notice that such notice has been given shall, in the absence of fraud, be prima facie evidence of the facts stated therein. For purposes of determining the stockholders entitled to receive either notice, each constituent corporation may fix, in advance, a record date that shall be not more than 10 days prior to the date the notice is given,

provided, that if the notice is given on or after the effective date of the merger or consolidation, the record date shall be such effective date. If no record date is fixed and the notice is given prior to the effective date, the record date shall be the close of business on the day next preceding the day on which the notice is given.

(e) Within 120 days after the effective date of the merger or consolidation, the surviving or resulting corporation or any stockholder who has complied with subsections (a) and (d) hereof and who is otherwise entitled to appraisal rights, may file a petition in the Court of Chancery demanding a determination of the value of the stock of all such stockholders. Notwithstanding the foregoing, at any time within 60 days after the effective date of the merger or consolidation, any stockholder shall have the right to withdraw such stockholder's demand for appraisal and to accept the terms offered upon the merger or consolidation. Within 120 days after the effective date of the merger or consolidation, any stockholder who has complied with the requirements of subsections (a) and (d) hereof, upon written request, shall be entitled to receive from the corporation surviving the merger or resulting from the consolidation a statement setting forth the aggregate number of shares not voted in favor of the merger or consolidation and with respect to which demands for appraisal have been received and the aggregate number of holders of such shares. Such written statement shall be mailed to the stockholder within 10 days after such stockholder's written request for such a statement is received by the surviving or resulting corporation or within 10 days after expiration of the period for delivery of demands for appraisal under subsection (d) hereof, whichever is later.

(f) Upon the filing of any such petition by a stockholder, service of a copy thereof shall be made upon the surviving or resulting corporation, which shall within 20 days after such service file in the office of the Register in Chancery in which the petition was filed a duly verified list containing the names and addresses of all stockholders who have demanded payment for their shares and with whom agreements as to the value of their shares have not been reached by the surviving or resulting corporation. If the petition shall be filed by the surviving or resulting corporation, the petition shall be accompanied by such a duly verified list. The Register in Chancery, if so ordered by the Court, shall give notice of the time and place fixed for the hearing of such petition by registered or certified mail to the surviving or resulting corporation and to the stockholders shown on the list at the addresses therein stated. Such notice shall also be given by 1 or more publications at least 1 week before the day of the hearing, in a newspaper of general circulation published in the City of Wilmington, Delaware or such publication as the Court deems advisable. The forms of the notices by mail and by publication shall be approved by the Court, and the costs thereof shall be borne by the surviving or resulting corporation.

(g) At the hearing on such petition, the Court shall determine the stockholders who have complied with this section and who have become entitled to appraisal rights. The Court may require the stockholders who have demanded an appraisal for their shares and who hold stock represented by certificates to submit their certificates of stock to the Register in Chancery for notation thereon of the pendency of the appraisal proceedings; and if any stockholder fails to comply with such direction, the Court may dismiss the proceedings as to such stockholder.

(h) After determining the stockholders entitled to an appraisal, the Court shall appraise the shares, determining their fair value exclusive of any element of value arising from the accomplishment or expectation of the merger or consolidation, together with a fair rate of interest, if any, to be paid upon the amount determined to be the fair value. In determining such fair value, the Court shall take into account all relevant factors. In determining the fair rate of interest, the Court may consider all relevant factors, including the rate of interest which the surviving or resulting corporation would have had to pay to borrow money during the pendency of the proceeding. Upon application by the surviving or resulting corporation or by any stockholder entitled to participate in the appraisal proceeding, the Court may, in its discretion, permit discovery or other pretrial proceedings and may proceed to trial upon the appraisal prior to the final determination of the stockholder entitled to an appraisal. Any stockholder whose name appears on the list filed by the surviving or resulting corporation pursuant to subsection (f) of this section and who has submitted such stockholder's certificates of stock to the Register in Chancery, if such is required, may

participate fully in all proceedings until it is finally determined that such stockholder is not entitled to appraisal rights under this section.

(i) The Court shall direct the payment of the fair value of the shares, together with interest, if any, by the surviving or resulting corporation to the stockholders entitled thereto. Interest may be simple or compound, as the Court may direct. Payment shall be so made to each such stockholder, in the case of holders of uncertificated stock forthwith, and the case of holders of shares represented by certificates upon the surrender to the corporation of the certificates representing such stock. The Court's decree may be enforced as other decrees in the Court of Chancery may be enforced, whether such surviving or resulting corporation be a corporation of this State or of any state.

(j) The costs of the proceeding may be determined by the Court and taxed upon the parties as the Court deems equitable in the circumstances. Upon application of a stockholder, the Court may order all or a portion of the expenses incurred by any stockholder in connection with the appraisal proceeding, including, without limitation, reasonable attorney's fees and the fees and expenses of experts, to be charged pro rata against the value of all the shares entitled to an appraisal.

(k) From and after the effective date of the merger or consolidation, no stockholder who has demanded appraisal rights as provided in subsection (d) of this section shall be entitled to vote such stock for any purpose or to receive payment of dividends or other distributions on the stock (except dividends or other distributions payable to stockholders of record at a date which is prior to the effective date of the merger or consolidation); provided, however, that if no petition for an appraisal shall be filed within the time provided in subsection (e) of this section, or if such stockholder shall deliver to the surviving or resulting corporation a written withdrawal of such stockholder's demand for an appraisal and an acceptance of the merger or consolidation, either within 60 days after the effective date of the merger or consolidation as provided in subsection (e) of this section or thereafter with the written approval of the corporation, then the right of such stockholder to an appraisal shall cease. Notwithstanding the foregoing, no appraisal proceeding in the Court of Chancery shall be dismissed as to any stockholder without the approval of the Court, and such approval may be conditioned upon such terms as the Court deems just.

(l) The shares of the surviving or resulting corporation to which the shares of such objecting stockholders would have been converted had they assented to the merger or consolidation shall have the status of authorized and unissued shares of the surviving or resulting corporation.

**CERTIFICATE OF AMENDMENT TO FIFTH AMENDED
AND RESTATED CERTIFICATE OF INCORPORATION
OF INTERNET PHOTONICS, INC.**

Pursuant to Section 242 of the General Corporation Law

Steven Waszak, Secretary and Chief Financial Officer of Internet Photonics, Inc. hereby certifies that:

ONE: The original Certificate of Incorporation of the Corporation was filed with the Secretary of State of Delaware on August 22, 2000 under the name Internet Photonics, Inc. The Amended and Restated Certificate of Incorporation of the Corporation was filed with the Secretary of State of Delaware on September 29, 2000. The Amended and Restated Certificate of Incorporation was amended by a Certificate of Amendment filed with the Secretary of State of Delaware on October 4, 2001. The Second Amended and Restated Certificate of Incorporation of the Corporation was filed with the Secretary of State of the State of Delaware on November 27, 2001. The Third Amended and Restated Certificate of Incorporation of the Corporation was filed with the Secretary of State of the State of Delaware on July 3, 2002. The Fourth Amended and Restated Certificate of Incorporation of the Corporation was filed with the Secretary of State of the State of Delaware on August 20, 2002. The Fifth Amended and Restated Certificate of Incorporation of the Corporation was filed with the Secretary of State of the State of Delaware on September 26, 2003.

TWO: He is duly elected and acting as Secretary and Chief Financial Officer of the Corporation.

THREE: Section 3(c) of Paragraph D of ARTICLE FOURTH of the Fifth Amended and Restated Certificate of Incorporation is amended by adding the following clause at the end thereof: “; provided, however, that in the case of a Sale Event where the definitive transaction agreement effecting such Sale Event specifically provides for a means of valuing the non-cash consideration so to be paid (for example, by providing that stock consideration shall be valued by averaging closing prices during a specified trading period), the valuation provisions of such transaction agreement shall instead apply.”

FOUR: This Amendment to the Fifth Amended and Restated Certificate of Incorporation of the Corporation has been duly adopted in accordance with the provisions of Sections 228 and 242 of the Delaware General Corporation Law by a written consent executed by the holders of (i) a majority of the outstanding shares of capital stock of the Corporation and (ii) a Majority of the Preferred Stock (as defined in the Fifth Amended and Restated Certificate of Incorporation) of the Corporation.

IN WITNESS WHEREOF, the Corporation has caused this certificate to be signed on its behalf by its Secretary and Chief Financial Officer this third day of February, 2004.

INTERNET PHOTONICS, INC.

By /s/ STEVEN WASZAK

Steven Waszak
Secretary and Chief Financial Officer

Escrow Agreement

THIS ESCROW AGREEMENT (the “**Agreement**”) is made and dated as of _____, 2004 by and among **CIENA CORPORATION**, a Delaware corporation (“**CIENA**”), **U.S. BANK TRUST NATIONAL ASSOCIATION**, a national banking association, as Escrow Agent (the “**Escrow Agent**”), and **SPROUT CAPITAL IX, L.P.**, a Delaware limited partnership, acting as Stockholders’ Representative (the “**Stockholders’ Representative**”) by virtue of the Agreement and Plan of Merger dated as of February 18, 2004 (the “**Merger Agreement**”).

WITNESSETH:

WHEREAS, CIENA, Internet Photonics, Inc., a Delaware corporation (the “**Company**”) and certain principal officers of the Company have entered into the Merger Agreement, providing for the merger of the Company with and into CIENA, and in connection with which the Stockholders of the Company shall receive as consideration a number of shares of Common Stock of CIENA (the “**CIENA Common Stock**”) as set forth in the Merger Agreement;

WHEREAS, pursuant to the Merger Agreement, CIENA and the Company have agreed that the rights of indemnification under Article VI of the Merger Agreement shall survive the consummation of the transactions contemplated by the Merger Agreement for a period of twelve months from the Closing Date, and shall be secured, pursuant to this Agreement, by certain shares of CIENA Common Stock (together with any accumulations thereto as provided herein, the “**Escrow Shares**”), to be registered in the name of the Escrow Agent, as escrow agent hereunder, and deposited in escrow with the Escrow Agent;

WHEREAS, pursuant to the Merger Agreement, the Stockholders’ Representative is entitled to full reimbursement for out-of-pocket fees and expenses and other obligations of or incurred by the Stockholders’ Representative in connection with the Merger Agreement and this Agreement, which reimbursement shall be satisfied out of the Escrow Shares if satisfaction is not sufficient from the proceeds from certain shares of CIENA Common Stock (together with any accumulations thereto as provided herein, the “**Reimbursement Shares**”), to be registered in the name of the Escrow Agent, as escrow agent hereunder, and deposited in escrow with the Escrow Agent;

WHEREAS, the Escrow Agent is willing to act in the capacity of Escrow Agent hereunder subject to, and upon the terms and conditions of this Agreement;

WHEREAS, pursuant to the Merger Agreement, the Stockholders’ Representative has been appointed as the Stockholders’ attorney-in-fact and authorized and empowered to act, for and on behalf of any or all of the Stockholders (with full power of substitution in the premises) in connection with the indemnity provisions of the Merger Agreement, this Escrow Agreement, and such other matters as are reasonably necessary for the consummation of the transactions contemplated hereby and thereby; and

WHEREAS, capitalized terms used and not defined herein have the meanings assigned to such terms in the Merger Agreement.

NOW, THEREFORE, in consideration of the promises, covenants and agreements set forth in this Agreement and of other good and valuable consideration, the receipt and legal sufficiency of which they hereby acknowledge, and intending to be legally bound hereby, and as an inducement for the execution and delivery of the Merger Agreement, CIENA, the Escrow Agent and the Stockholders’ Representative hereby agree as follows:

ARTICLE I

DESIGNATION OF ESCROW AGENT AND CAPITAL SHARES SUBJECT TO ESCROW

1.1 Designation of Escrow Agent. CIENA and the Stockholders' Representative hereby mutually designate and appoint U.S. Bank Trust National Association, a national banking association, having an office and place of business located at 100 Wall Street, New York, New York 10005, as Escrow Agent for the purposes set forth herein. The Escrow Agent hereby accepts such appointment in accordance with the terms and conditions provided in this Agreement.

1.2 Capital Stock Subject to Escrow. In accordance with Section 6.2 of the Merger Agreement, upon execution of this Agreement CIENA has issued and delivered, or caused to be delivered, on behalf of the Stockholders to the Escrow Agent one or more stock certificates (the "**Escrow Certificates**"), each of which is registered in the name of the Escrow Agent as escrow agent hereunder evidencing the Escrow Amount. The Escrow Agent shall hold and distribute the Escrow Certificates and Escrow Shares in accordance with the terms hereof.

1.3 Value of Escrow Shares. For all purposes pursuant to this Agreement, including without limitation the distribution of Escrow Shares, the value of each Escrow Share (but not each Reimbursement Share) shall be equal to the Per Share Price (as adjusted for stock dividends, stock splits or combinations affecting the Escrow Shares).

ARTICLE II

TREATMENT OF ACCUMULATIONS TO ESCROW SHARES

2.1 Escrow Period; Distribution Upon Termination of Escrow Periods. Subject to the following requirements, the Escrow Fund shall be in existence immediately following the Closing Date and shall terminate on such date as there are not Escrow Shares or other funds or assets held by the Escrow Agent in the Escrow Fund (the "**Escrow Period**").

(i) On the first anniversary of the date hereof, _____, 2005 (the "**Escrow Release Date**"), the Escrow Fund shall be delivered by the Escrow Agent in accordance with the provisions of Section 2.1(ii) below, provided, however, that the Escrow Release Date shall not apply with respect to any amount which, in the reasonable judgment of CIENA, is necessary to satisfy any Losses incurred by CIENA (or properly accrued in accordance with GAAP applied on a consistent basis for a Loss that CIENA reasonably believes it will have to pay with respect to a third-party claim of which CIENA has received notice prior to the Escrow Release Date and specified in any Officer's Certificate (as defined below) delivered to the Escrow Agent prior to the Escrow Release Date with respect to facts and circumstances existing prior to the Escrow Release Date.

(ii) The Escrow Agent shall promptly deliver to EquiServe Trust Company, N.A., as exchange agent, for distribution to the Stockholders, the remaining portion of the Escrow Fund not required to satisfy the claims referred to in Section 2.1(i) above following the Escrow Release Date (less the amount of any out-of-pocket fees and expenses and other obligations to (or anticipated obligations to) or obligations incurred or anticipated to be incurred by the Stockholders' Representative in connection with the Merger Agreement and this Agreement, and which are not covered by the Reimbursement Fund and were not previously paid to the Stockholders' Representative out of the Reimbursement Fund (as defined below), and for which the Stockholders' Representative has provided notice to the Escrow Agent prior to such distribution). The number of Escrow Shares to be released to each Stockholder shall be rounded down to the next whole share to avoid the release of fractional shares. As soon as all such claims have been resolved and obligations have been satisfied, the Escrow Agent shall deliver to EquiServe Trust Company, N.A., as exchange agent, for distribution to the Stockholders all portions of the Escrow Fund not required to satisfy such claims (less the amount of any out-of-pocket fees and expenses and other obligations to (or anticipated obligations to) or obligations incurred or anticipated to be incurred by the Stockholders' Representative in connection with the Merger Agreement and this Agreement, and not previously paid to

the Stockholders' Representative out of the Reimbursement Fund, and for which the Stockholders' Representative has provided notice to the Escrow Agent prior to such delivery). Any amounts withheld from Stockholders of any distribution of the Escrow Fund (or any portion thereof) to satisfy anticipated out-of-pocket fees and expenses and other obligations of or to the Stockholders' Representative shall be paid to the Stockholders' Representative or delivered to EquiServe Trust Company, N.A., as exchange agent, for distribution to the Stockholders in accordance with the written instruction of the Stockholders' Representative to the Escrow Agent.

2.2 Protection of Escrow Fund.

(a) The Escrow Agent shall hold and safeguard the Escrow Fund during the Escrow Period, shall treat such fund as a trust fund for the benefit of the Stockholders in accordance with the terms of this Agreement and not as the property of CIENA, and shall hold and dispose of the Escrow Fund only in accordance with the terms hereof.

(b) Any shares of CIENA Common Stock or other equity securities issued or distributed by CIENA (including shares issued upon a stock split) ("**New Shares**") in respect of CIENA Common Stock in the Escrow Fund which have not been released from the Escrow Fund shall be added to the Escrow Fund and become a part thereof. New Shares issued in respect of shares of CIENA Common Stock which have been released from the Escrow Fund shall not be added to the Escrow Fund but shall be distributed to the record holders thereof. Cash dividends, if any, on CIENA Common Stock shall not be added to the Escrow Fund but shall be distributed to the Stockholders in proportion to their respective original contributions to the Escrow Fund.

(c) Each Stockholder shall have voting rights and the right to distributions of cash dividends with respect to the Escrow Shares contributed to the Escrow Fund by such Stockholder (and on any voting securities added to the Escrow Fund in respect of such shares of CIENA Common Stock). As the record holder of such shares, the Escrow Agent shall vote such shares in accordance with the instructions of the Stockholders having the beneficial interest therein and shall ensure that copies of all proxy solicitation materials are promptly delivered to such Stockholders.

2.3 Additional Property Subject to Escrow. If at any time after the date hereof and prior to the distribution of the Escrow Shares any of the Stockholders shall become entitled to receive or shall receive in connection with the Escrow Shares any (i) non-taxable distribution of securities of CIENA or of any other entity including, without limitation, any certificate in connection with any increase or reduction of capital, reclassification, recapitalization, merger, business combination, consolidation, sale of assets, stock split-up or spin-off; or (ii) any non-taxable distribution of stock options, warrants or rights, whether as an addition to or in substitution of or exchange for any of the Escrow Shares; or (iii) non-taxable stock dividend or other non-taxable distribution payable in securities or property of any description, all of the shares of capital stock, or other property resulting from any such distribution, stock option, warrant, right or stock dividend shall be deemed to be Escrow Shares and shall be subject to the terms hereof to the same extent as the original Escrow Shares. Any cash dividends and any taxable stock dividends paid with respect to the Escrow Shares shall be paid to the Stockholders in accordance with their respective proportionate interests in the Escrow Shares and any taxable stock dividends. Each of the Stockholders shall recognize as income on a current basis all of the cash dividends which such Stockholder is entitled to receive and for any non-cash dividend and any other non-taxable distribution shall, through the Stockholders' Representative, execute stock powers or other appropriate instruments of transfer for all shares, options, warrants or rights as required for transfer.

2.4 Retained Voting and Other Rights. The Escrow Agent shall hold the Escrow Shares and any additional property acquired with respect thereto pursuant to Section 2.3 above in safekeeping and dispose thereof only in accordance with the terms of this Agreement. The Escrow Agent may treat the Stockholders' Representative as the duly authorized agent and representative of the Stockholders with respect to any additional property related to the Escrow Shares. The Escrow Agent shall hold the Escrow Shares in accordance with each Stockholder's proportionate interest in the Escrow Shares and shall (to the

extent legally permissible) vote the Escrow Shares in accordance with the written instructions of the Stockholder for whose account such Escrow Shares are held.

ARTICLE III

DISTRIBUTION OF ESCROW SHARES UPON TERMINATION OF THE AGREEMENT

3.1 Third-Party Claims. In the event CIENA becomes aware of an event that CIENA reasonably believes may result in a demand against the Escrow Fund, CIENA will notify the Stockholders' Representative of such claim. The Stockholders' Representative will then have the right to defend, contest, negotiate or settle any such claim or demand through counsel of its own selection (who shall be reasonably acceptable to CIENA), at the Stockholders' own cost and expense, which costs and expenses will be payable out of the Reimbursement Fund and the Escrow Fund and CIENA shall cooperate with and assist the Stockholders' Representative in the defense of such claim or demand. Notwithstanding the preceding sentence, the Stockholders' Representative will not settle, compromise, or offer to settle or compromise any such claim or demand without the prior written consent of CIENA, which consent will not be unreasonably withheld, provided that no such consent shall be required if such settlement, offer to settle or compromise includes an unconditional release of CIENA. Upon receipt by the Escrow Agent of a written instrument that is executed by the Stockholders' Representative and that instructs the Escrow Agent as to the disbursement of some or all of the Reimbursement Fund (or, to the extent the Reimbursement Fund is insufficient to satisfy such costs and expenses, from the Escrow Fund), the Escrow Agent shall within five (5) business days of such instruction disburse to the Stockholders' Representative the amount so instructed in such written instrument whereupon the then current Reimbursement Fund balance or Escrow Fund balance, as applicable, shall be reduced by such amount. If the Stockholders' Representative gives notice to CIENA within twenty Business Days after CIENA has notified the Stockholders' Representative that any such claim or demand has been made in writing, that the Stockholders' Representative elects to have CIENA defend, contest, negotiate, or settle any such claim or demand, then CIENA will have the right to contest and/or settle any such claim or demand and the Stockholders' Representative shall cooperate with and assist CIENA in the defense of such claim or demand, *provided, however*, that CIENA will not settle, compromise, or offer to settle or compromise any such claim or demand without the prior written consent (which may include a general or limited consent) of the Stockholders' Representative, which consent will not be unreasonably withheld. Notwithstanding the foregoing, any conflict or ambiguity between this [Section 3.1](#) and the terms of the Merger Agreement will be determined in favor of the provisions set forth in the Merger Agreement. In the event that the Stockholders' Representative has consented to any settlement, the Stockholders shall have no power or authority to object under any provision of this Agreement to the amount of such settlement.

3.2 Claims Upon Escrow Fund.

(a) Upon receipt by the Escrow Agent at any time on or before the Escrow Release Date of a certificate signed by any officer of CIENA (an "**Officer's Certificate**"): (A) stating that CIENA (i) has incurred a Loss for which CIENA is entitled to indemnification under the Merger Agreement, or (ii) has properly accrued (or reasonably anticipates that it will have to accrue) in accordance with GAAP applied on a consistent basis, for a Loss that CIENA reasonably believes it will have to pay with respect to a third-party claim of which CIENA or the Company has received notice prior to the Escrow Release Date with respect to facts and circumstances existing prior to the Escrow Release Date, and (B) specifying in reasonable detail the matter for which it claims entitlement for indemnification and/or the individual items of Losses included in the amount so stated, the date each such item was paid or properly accrued or the basis for such anticipated accrual, and the nature of the misrepresentation, breach of warranty or covenant to which such item is related, the Escrow Agent shall deliver to CIENA, as promptly as practicable, but subject to [Section 3.3](#) below, an amount equal to the Escrow Payment (as defined below) in the manner set forth in the immediately following sentence; provided, however, that in the event of a third party claim that is the subject of the demand on the Escrow Fund, no Escrow Payment shall be delivered until the claim is settled or adjudicated unless the Stockholders Representative and CIENA otherwise agree. The

Escrow Agent shall allocate any amount of Loss it is required to reimburse to CIENA in accordance with this Agreement based on the number of shares of CIENA Common Stock held in the Escrow Fund for the benefit of each Stockholder (each of which shall be valued at the Per Share Price in accordance with Section 1.3 hereof). Any Escrow Shares used to satisfy an Escrow Payment and delivered to CIENA out of the Escrow Fund shall reduce each such Stockholder's interest in the Escrow Fund in the form of CIENA Common Stock in proportion to such Stockholder's respective original contributions to the Escrow Fund. Notwithstanding anything herein to the contrary, the Escrow Agent shall rely conclusively on the Officer's Certificate and shall have no responsibility to determine whether the information set forth therein is accurate or correct, or whether the claim has been specified in reasonable detail.

(b) "**Escrow Payment**" shall mean, at CIENA's election, either (i) such number of Escrow Shares out of the Escrow Fund (each of which shall be valued at the Per Share Price in accordance with Section 1.3 hereof) with an aggregate value equal to the Losses for which the Escrow Payment is being made, rounded up to the next whole share to avoid the release of fractional shares (the "Payment Shares"), or (ii) the proceeds from the sale of such Payment Shares (valued as aforesaid) by the Escrow Agent on behalf of each Stockholder's account; provided, however that in no event shall the Escrow Payment exceed the number of Escrow Shares in the Escrow Fund at the time of such Escrow Payment.

3.3 Notification of Stockholders' Representative. At the time of delivery of any Officer's Certificate to the Escrow Agent, a duplicate copy of such certificate shall be delivered to the Stockholders' Representative (with proof of such delivery to the Escrow Agent (which proof of delivery may consist of a photocopy of the registered or certified mail or overnight courier receipt of the signed receipt if delivered by hand)(the "**Proof of Delivery**")), and for a period of thirty (30) days after such delivery, the Escrow Agent shall make no delivery to CIENA of any Escrow Payment unless the Escrow Agent shall have received written authorization from the Stockholders' Representative to make such delivery. After the expiration of thirty (30) days following the Escrow Agent's receipt of the Officer's Certificate, the Escrow Agent shall make delivery of the Escrow Payment; provided, however, that no such payment or delivery may be made if the Stockholders' Representative shall object in a written statement to the claim made in the Officer's Certificate, and such statement shall have been delivered to the Escrow Agent prior to the expiration of such thirty (30) day period. The Escrow Agent shall have no responsibility to determine whether a copy of the Officer's Certificate was delivered to the Stockholders' Representative other than confirming it has received the Proof of Delivery from CIENA.

3.4 Resolution of Conflicts. In case the Stockholders' Representative shall object in writing to any claim or claims made in any Officer's Certificate, the Escrow Agent shall make no delivery of any Escrow Payment requested in the applicable Officers' Certificate to CIENA and shall continue to hold the Escrow Fund until the Escrow Agent shall have received, with respect thereto either (i) joint written instructions of CIENA and the Stockholders' Representative or (ii) a final unappealable order or award of a court of competent jurisdiction. The Stockholders' Representative and CIENA shall attempt in good faith to agree upon the rights of the respective parties with respect to each of such claims. If the Stockholders' Representative and CIENA should so agree, a memorandum setting forth such agreement shall be prepared and signed by both parties and shall be furnished to the Escrow Agent.

ARTICLE IV

ESCROW AGENT

4.1 Escrow Agent's Duties.

(a) The Escrow Agent (i) shall be obligated only for the performance of such duties as are specifically set forth herein, and as set forth in any additional written escrow instructions which the Escrow Agent may receive after the date of this Agreement which are signed by an officer of CIENA and the Stockholders' Representative, and shall have no duty to exercise any greater degree of care with respect to the Escrow Fund and the Reimbursement Fund that it would for its own property and this Agreement shall not be deemed to create a fiduciary duty between the parties under state or federal law, (ii) may rely and shall be protected in relying or refraining from acting on any instrument reasonably believed to be

genuine and to have been signed or presented by the proper party or parties, and (iii) shall not be obligated to take any legal or other action hereunder which might in its judgment involve or cause it to incur any expense or liability unless it shall have been provided with acceptable indemnification. The Escrow Agent may rely on the Stockholders' Representative as the exclusive agent of the Stockholders under this Agreement and the Merger Agreement and shall incur no liability to any party with respect to any action taken or suffered by it in good faith in reliance thereon. The Escrow Agent shall not be liable for any act done or omitted hereunder as Escrow Agent while acting in good faith and in the exercise of reasonable judgment, and any act done or omitted pursuant to the advice of counsel shall be conclusive evidence of such good faith. The Escrow Agent is not a party to nor shall be liable for any of the agreements referred to or described herein (including, without limitation, the Merger Agreement).

(b) The Escrow Agent is hereby expressly authorized to disregard any and all warnings given by any of the parties hereto or by any other person, and is hereby expressly authorized to comply with and obey any final non-appealable orders, judgments or decrees of any court. In case the Escrow Agent obeys or complies with any such order, judgment or decree of any court, the Escrow Agent shall not be liable to any of the parties hereto or to any other person by reason of such compliance, notwithstanding any such order, judgment or decree being subsequently reversed, modified, annulled, set aside, vacated or found to have been entered without jurisdiction.

(c) The Escrow Agent shall not be liable in any respect on account of the identity, authority or rights of the parties executing or delivering or purporting to execute or deliver this Agreement or any documents or papers deposited or called for hereunder.

(d) The Escrow Agent shall not be liable for the expiration of any rights under any statute of limitations with respect to this Agreement or any documents deposited with the Escrow Agent.

(e) In performing any duties under this Agreement, the Escrow Agent shall not be liable to any party for damages, losses, or expenses, except for negligence or willful misconduct on the part of the Escrow Agent. The Escrow Agent shall not incur any such liability for any action taken or omitted in reliance upon any instrument, including any written statement or affidavit provided for in this Agreement that the Escrow Agent shall in good faith believe to be genuine, nor will the Escrow Agent be liable or responsible for forgeries, fraud, impersonations, or determining the scope of any representative authority. In addition, the Escrow Agent may consult with legal counsel in connection with Escrow Agent's duties under this Agreement and shall be fully protected in any act taken, suffered, or permitted by it in good faith in accordance with the advice of counsel. The Escrow Agent is not responsible for determining and verifying the authority of any person acting or purporting to act on behalf of any party to this Agreement, provided such determination or verification is in good faith.

(f) If any controversy arises between the parties to this Agreement, or with any other party, concerning the subject matter of this Agreement, its terms or conditions, the Escrow Agent will not be required to resolve the controversy or to take any action regarding it. The Escrow Agent may hold all documents and Escrow Shares and may wait for settlement of any such controversy by final appropriate legal proceedings or other means as, in the Escrow Agent's discretion, the Escrow Agent may reasonably require, despite what may be set forth elsewhere in this Agreement. In such event, the Escrow Agent will not be liable for any damages. Furthermore, the Escrow Agent may at its option, file an action of interpleader requiring the parties to answer and litigate any claims and rights among themselves. The Escrow Agent is authorized to deposit with the clerk of the court all documents and Escrow Shares held in escrow, except all costs, expenses, charges and reasonable attorney's fees incurred by the Escrow Agent due to the interpleader action and which the parties jointly and severally agree to pay. Upon initiating such action, the Escrow Agent shall be fully released and discharged of and from all obligations and liability by the terms of this Agreement with regard to the Escrow Shares.

(g) The parties and their respective successors and assigns agree jointly and severally to indemnify and hold Escrow Agent harmless against any and all losses, claims, damages, liabilities, and expenses, including reasonable costs of investigation, counsel fees, including allocated costs of in-house counsel and disbursements that may be imposed on Escrow Agent or incurred by Escrow Agent in connection with the

performance of its duties under this Agreement, including but not limited to any litigation or arbitration arising from this Agreement or involving its subject matter other than arising out of its negligence or willful misconduct.

(h) The Escrow Agent may resign at any time upon giving at least thirty (30) days written notice to the parties; provided, however, that no such resignation shall become effective until the appointment of a successor escrow agent which shall be accomplished as follows: the parties shall use their reasonable best efforts to mutually agree on a successor escrow agent within thirty (30) days after receiving such notice. If the parties fail to agree upon a successor escrow agent within such time, the Escrow Agent shall have the right to appoint a successor escrow agent authorized to do business in the State of Delaware or the Escrow Agent may apply to a court of competent jurisdiction for appointment of a successor escrow agent. The successor escrow agent shall execute and deliver an instrument accepting such appointment and it shall, without further acts, be vested with all the estates, properties, rights, powers, and duties of the predecessor escrow agent as if originally named as Escrow Agent. Upon appointment of a successor escrow agent, the Escrow Agent shall be discharged from any further duties and liability under this Agreement.

4.2 Fees. All fees of the Escrow Agent for performance of its duties hereunder shall be paid by CIENA in accordance with the fee schedule of the Escrow Agent attached hereto, which schedule may be subject to change hereafter on an annual basis subject to CIENA's prior approval. It is understood that the fees and usual charges agreed upon for services of the Escrow Agent shall be considered compensation for ordinary services as contemplated by this Agreement. In the event that the conditions of this Agreement are not promptly fulfilled, or if the Escrow Agent renders any service not provided for in this Agreement, or if the parties request a substantial modification of its terms, or if any controversy arises, or if the Escrow Agent is made a party to, or intervenes in, any litigation or arbitration pertaining to the Escrow Fund or its subject matter, the Escrow Agent shall be reasonably compensated for such extraordinary services and reimbursed for all costs, attorney's fees, including allocated costs of in-house counsel, and expenses occasioned by such default, delay, controversy or litigation or arbitration.

4.3 Consequential Damages. Subject to the provisions of Section 4.1(c) hereof, in no event shall the Escrow Agent be liable for special, indirect or consequential loss or damage of any kind whatsoever (including but not limited to lost profits), even if the Escrow Agent has been advised of the likelihood of such loss or damage and regardless of the form of action.

4.4 Successor Escrow Agents. Any corporation into which the Escrow Agent in its individual capacity may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which the Escrow Agent in its individual capacity shall be a party, or any corporation to which substantially all the corporate trust business of the Escrow Agent in its individual capacity may be transferred, shall be the Escrow Agent under this Escrow Agreement without further act.

ARTICLE V

THE STOCKHOLDERS' REPRESENTATIVE

5.1 Stockholders' Representative Powers and Authority.

(a) The Stockholders' Representative shall have full power and authority to represent all of the Stockholders and their successors with respect to all matters arising under this Agreement and the Merger Agreement and all actions taken by the Stockholders' Representative hereunder and thereunder shall be binding upon all such Stockholders and their successors as if expressly confirmed and ratified in writing by each of them and no Stockholder shall have the right to object, dissent, protest or otherwise contest the same. The Stockholders' Representative shall take any and all actions which it believes are necessary or appropriate under this Agreement and the Merger Agreement for and on behalf of the Stockholders, as fully as if the Stockholders were acting on their own behalf, including, without limitation, executing this Agreement as Stockholders' Representative, giving and receiving any notice or instruction permitted or required under this Agreement or the Merger Agreement by the Stockholders' Representative or any

Stockholder, interpreting all of the terms and provisions of this Agreement and the Merger Agreement, authorizing payments to be made with respect hereto or thereto, obtaining reimbursement as provided for herein for all out-of-pocket fees and expenses and other obligations of or incurred by the Stockholders' Representative in connection with this Agreement and the Merger Agreement, defending all indemnity claims by or against the Stockholders pursuant to Article VI of the Merger Agreement (an "**Indemnity Claim**"), consenting to, compromising or settling all Indemnity Claims, conducting negotiations with CIENA and its agents regarding such claims, dealing with CIENA and the Escrow Agent under this Agreement and the Merger Agreement with respect to all matters arising under this Agreement and the Merger Agreement, taking any and all other actions specified in or contemplated by this Agreement and the Merger Agreement, and engaging counsel, accountants or other Stockholders' Representative in connection with the foregoing matters. Without limiting the generality of the foregoing, the Stockholders' Representative shall have full power and authority to interpret all the terms and provisions of this Agreement and the Merger Agreement and to consent to any amendment hereof or thereof on behalf of all such Stockholders and such successors. Notwithstanding the foregoing, each Stockholder shall have the right to exercise any voting rights appertaining to the Escrow Shares.

(b) Pursuant to the Merger Agreement, Sprout Capital IX, L.P. has irrevocably been appointed as the Stockholders' Representative to act as the true and lawful agent of the Stockholders and attorney-in-fact with respect to all matters arising in connection with this Agreement, including but not limited to the power and authority on behalf of each Stockholder (other than in his or her own right and excluding holders of Dissenting Shares) to do any one or all of the following:

(i) Receive all notices or documents given or to be given to any of the Stockholders by CIENA pursuant hereto or to the Merger Agreement or in connection herewith or therewith and to receive and accept service of legal process in connection with any suit or proceeding arising under this Agreement or the Merger Agreement;

(ii) Deliver to CIENA at the Closing all certificates and documents to be delivered to CIENA by any of the Stockholders pursuant to the Merger Agreement, together with any other certificates and documents executed by any of the Stockholders and deposited with the Stockholders' Representative for such purpose;

(iii) Engage counsel, and such accountants and other advisors for any of the Stockholders and incur such other expenses on behalf of any of the Stockholders in connection with this Agreement or the Merger Agreement and the transactions contemplated hereby or thereby as the Stockholders' Representative may in its sole discretion deem appropriate; and

(iv) Take such action on behalf of any of the Stockholders as the Stockholders' Representative may in its sole discretion deem appropriate in respect of:

(A) waiving any inaccuracies in the representations or warranties of CIENA contained in this Agreement or in any document delivered by CIENA pursuant hereto;

(B) waiving the fulfillment of any of the conditions precedent to the Company's obligations hereunder or pursuant to the Merger Agreement;

(C) taking such other action as the Stockholders' Representative or any of the Stockholders is authorized to take under this Agreement or the Merger Agreement;

(D) receiving all documents or certificates and making all determinations, on behalf of any of the Stockholders, required under this Agreement or the Merger Agreement;

(E) all such other matters as the Stockholders' Representative may in its sole discretion deem necessary or appropriate to consummate this Agreement or the Merger Agreement and the transactions contemplated hereby and thereby; and

(F) all such action as may be necessary after the Closing Date to carry out any of the transactions contemplated by this Agreement, and the Merger Agreement, including, without

limitation, the defense and/or settlement of any claims for which indemnification is sought pursuant to Article VI of the Merger Agreement and any waiver of any obligation of CIENA.

All actions, decisions and instructions of the Stockholders' Representative shall be conclusive and binding upon all of the Stockholders and no Stockholder nor any other Person shall have any claim or cause of action against the Stockholders' Representative, and the Stockholders' Representative shall have no liability to any Stockholder or any other Person, for any action taken, decision made or instruction given by the Stockholders' Representative in connection with the Merger Agreement or this Agreement, except in the case of its own gross negligence or willful misconduct.

5.2 Indemnification of Stockholders' Representative. The Stockholders' Representative shall incur no liability to the Stockholders or the Escrow Agent or any other person with respect to any action taken or suffered by it in reliance upon any note, direction, instruction, consent, statement or other documents reasonably believed by the Stockholders' Representative to be genuinely and duly authorized by holders of not less than a 61% interest in the Escrow Fund, nor for other action or inaction taken or omitted in good faith in connection herewith or with the Merger Agreement, in any case except for liability to the Stockholders for its own gross negligence or willful misconduct. The Stockholders' Representative shall be indemnified for and shall be held harmless against any loss, liability or expense incurred by the Stockholders' Representative or any of its Affiliates and any of their respective partners, directors, officers, employees, agents, stockholders, consultants, attorneys, accountants, advisors, brokers, representatives or controlling persons, in each case relating to the Stockholders' Representative's conduct as Stockholders' Representative, other than such losses, liabilities or expenses resulting from the Stockholders' Representatives' gross negligence or willful misconduct in connection with its performance under this Agreement and the Merger Agreement. This indemnification shall survive the termination of this Agreement. The costs of such indemnification (including the costs and expenses of enforcing this right of indemnification) shall be paid from the principal portion of the Reimbursement Fund (or, to the extent the Reimbursement Fund is insufficient to satisfy such costs and expenses, from the Escrow Fund). For all purposes hereunder, a majority in interest of the Stockholders shall be determined on the basis of each Stockholder's ownership of Company Common Stock outstanding immediately prior to the Effective Time (assuming the exercise or conversion of all Company Preferred Stock and Company Warrants outstanding immediately prior to the Effective Time). The Stockholders' Representative may, in all questions arising under this Agreement, rely on the advice of counsel, independent public accountants and other experts selected by it, and for anything done, omitted or suffered in good faith by the Stockholders' Representative in accordance with such advice, the Stockholders' Representative shall not be liable to the Stockholders or the Escrow Agent or any other person. In no event shall the Stockholders' Representative be liable hereunder or in connection herewith for (i) any indirect, punitive, special or consequential damages, or (ii) any amounts other than those that are satisfied out of the Reimbursement Fund or, to the extent provided for herein, the Escrow Fund. The Escrow Agent shall from time to time sell such amount of the Escrow Shares as necessary to pay such Stockholders' Representative's costs and expenses, to the extent required by this Section 5.2 and to the extent that the Reimbursement Fund is insufficient for such purpose.

5.3 Access to Information. The Stockholders' Representative shall have reasonable access to information of and concerning any Indemnity Claim and which is in the possession, custody or control of CIENA and the reasonable assistance of CIENA's officers and employees for purposes of performing the Stockholders' Representative's duties under this Agreement or the Merger Agreement and exercising its rights under this Agreement and the Merger Agreement, including for the purpose of evaluating any Indemnity Claim against the Escrow Shares by CIENA; provided that the Stockholders' Representative shall treat confidentially and not, except in connection with enforcing its rights or the rights of the Stockholders under this Agreement and the Merger Agreement, disclose any nonpublic information from or concerning any Indemnity Claim to anyone (except to the Stockholders' Representative's attorneys, accountants and other advisers, to Stockholders, and on a need-to-know basis to other individuals who agree to keep such information confidential).

5.4 Reasonable Reliance. In the performance of its duties hereunder, the Stockholders' Representative shall be entitled to rely upon any document or instrument reasonably believed by it to be genuine, accurate as to content and signed by any Stockholder or CIENA. The Stockholders' Representative may assume that any person purporting to give any notice in accordance with the provisions hereof has been duly authorized to do so.

5.5 Attorney-in-Fact.

(a) The Stockholders' Representative is hereby appointed and constituted the true and lawful attorney-in-fact of each Stockholder (other than a holder of Dissenting Shares), with full power in his, her or its name and on his, her or its behalf to act according to the terms of this Agreement and the Merger Agreement in the absolute discretion of the Stockholders' Representative; and in general to do all things and to perform all acts including, without limitation, executing and delivering this Agreement and any other agreements, certificates, receipts, instructions, notices or instruments contemplated by or deemed advisable in connection with this Agreement.

(b) This power of attorney and all authority hereby conferred is granted and shall be irrevocable and shall not be terminated by any act of any Stockholder, by operation of law, whether by such Stockholder's death, disability protective supervision or any other event. Without limitation to the foregoing, this power of attorney is to ensure the performance of a special obligation and, accordingly, each Stockholder hereby renounces its, his or her right to renounce this power of attorney unilaterally any time before the end of the Escrow Period.

(c) Each Stockholder hereby waives any and all defenses which may be available to contest, negate or disaffirm the action of the Stockholders' Representative taken in good faith under this Agreement.

(d) Notwithstanding the power of attorney granted in this Article V, no agreement, instrument, acknowledgement or other act or document shall be ineffective by reason only of the Stockholders having signed or given such directly instead of the Stockholders' Representative.

5.6 Liability. If the Stockholders' Representative is required by the terms of this Agreement to determine the occurrence of any event or contingency, the Stockholders' Representative shall, in making such determination, be liable to the Stockholders only for its proven gross negligence or willful misconduct as determined in light of all the circumstances, including the time and facilities available to it in the ordinary conduct of business. In determining the occurrence of any such event or contingency, the Stockholders' Representative may request from any of the Stockholders or any other person such reasonable additional evidence as the Stockholders' Representative in its sole discretion may deem necessary to determine any fact relating to the occurrence of such event or contingency, and may at any time inquire of and consult with others, including any of the Stockholders, and the Stockholders' Representative shall not be liable to any Stockholder for any damages resulting from its delay in acting hereunder pending its receipt and examination of additional evidence requested by it.

5.7 Orders. The Stockholders' Representative is authorized, in its sole discretion, to comply with final, nonappealable orders or decisions issued or process entered by any court of competent jurisdiction with respect to the Escrow Shares or the Reimbursement Fund. If any portion of the Escrow Shares or the Reimbursement Fund is disbursed to the Stockholders' Representative and is at any time attached, garnished or levied upon under any court order, or in case the payment, assignment, transfer, conveyance or delivery of any such property shall be stayed or enjoined by any court order, or in case any order, judgment or decree shall be made or entered by any court affecting such property or any part thereof, then and in any such event, the Stockholders' Representative is authorized, in its sole discretion, but in good faith, to rely upon and comply with any such order, writ, judgment or decree which it is advised by legal counsel selected by it is binding upon it without the need for appeal or other action; and if the Stockholders' Representative complies with any such order, writ, judgment or decree, it shall not be liable to any Stockholder or to any other Person by reason of such compliance even though such order, writ, judgment or decree may be subsequently reversed, modified, annulled, set aside or vacated.

5.8 Removal of Stockholders' Representative; Authority of Successor Stockholders' Representative. Stockholders (or the successors and assigns thereto) who in the aggregate hold not less than a 61% interest in the Escrow Fund shall have the right at any time during the term of the Escrow Agreement to remove the then-acting Stockholders' Representative and to appoint a successor Stockholders' Representative; provided, however, that neither such removal of the then acting Stockholders' Representative nor such appointment of a successor Stockholders' Representative shall be effective until the delivery to the Escrow Agent of executed counterparts of a writing signed by each such Stockholder with respect to such removal and appointment, together with an acknowledgment signed by the successor Stockholders' Representative appointed in such writing that he or she accepts the responsibility of successor Stockholders' Representative and agrees to perform and be bound by all of the provisions of this Agreement and the Merger Agreement applicable to the Stockholders' Representative. Each successor Stockholders' Representative shall have all of the power, authority, rights and privileges conferred by this Agreement upon the original Stockholders' Representative, and the term "**Stockholders' Representative**" as used herein and in the Merger Agreement shall be deemed to include any interim or successor Stockholders' Representative.

5.9 Reimbursement Fund.

(a) Deposit of Reimbursement Shares. In accordance with Section 6.2 of the Merger Agreement, upon execution of this Agreement, CIENA has issued and delivered, or caused to be delivered, on behalf of the Company Stockholders to the Escrow Agent one or more stock certificates (the "**Reimbursement Certificates**") representing the Reimbursement Shares and having an aggregate number of shares of CIENA common stock equal to Forty Thousand Eight Hundred Three (40,803) shares, each of which is registered in the name of the Escrow Agent, as escrow agent hereunder, evidencing the Reimbursement Amount (as defined in the Merger Agreement). The Escrow Agent shall hold and distribute the Reimbursement Certificates and Reimbursement Shares in accordance with the terms hereof.

(b) Sale of Reimbursement Shares. Upon receiving instruction from the Stockholders' Representative, the Escrow Agent shall sell on the open market any or all of the Reimbursement Shares and hold the proceeds from such sale (the "**Reimbursement Proceeds**") in the Reimbursement Fund (as defined below). For purposes of this Agreement, the term "**Reimbursement Fund**" shall mean the Reimbursement Shares until sold in accordance with this Section 5.9(b) and thereafter the Reimbursement Proceeds, together with any interest or other income earned thereon or distributions received in respect thereof.

(c) Reimbursement Fund. Pursuant to Section 6.4 of the Merger Agreement and this Article V, the Stockholders' Representative is entitled to full reimbursement for out-of-pocket fees and expenses and other obligations of or incurred by the Stockholders' Representative in connection with the Merger Agreement and this Agreement. The Reimbursement Fund shall be used to reimburse the Stockholders' Representative for out-of-pocket fees and expenses and to pay other obligations to or of the Stockholders' Representative, or shall (to the extent not previously distributed to the Stockholders' Representative as provided for above or subject to a claim by the Stockholders' Representative) be distributed to the Stockholders at such time as the Escrow Fund is fully and finally distributed in accordance with the terms of this Agreement. In the event the Reimbursement Fund is unavailable or insufficient to satisfy in full the out-of-pocket fees and expenses of and other obligations to or of the Stockholders' Representative, then the Stockholders' Representative shall be entitled to reimbursement for such out-of-pocket fees and expenses and other obligations to or of the Stockholders' Representative out of the Escrow Fund.

(d) Treatment of the Reimbursement Fund. The Escrow Agent shall hold and safeguard the Reimbursement Fund during the Escrow Period, shall treat the Reimbursement Fund as a trust fund for the benefit of the Stockholders and the Stockholders' Representative in accordance with the terms of this Agreement and not as the property of CIENA, and shall hold and dispose of the Reimbursement Fund only in accordance with the terms hereof.

(e) Investment of Reimbursement Fund. The Escrow Agent shall invest the Reimbursement Proceeds in the Escrow Agent's "**MMIS Business Insured Savings Account.**" Earnings received from the investment of the Reimbursement Proceeds shall be held in the Reimbursement Fund in accordance with

the terms of this Agreement. The Escrow Agent shall have no liability for any investment losses, including without limitation any market loss on any investment liquidated prior to maturity in order to make a payment required hereunder.

(f) **Disbursement of the Reimbursement Fund.** The Escrow Agent shall disburse the Reimbursement Fund only in accordance with a written instrument delivered to the Escrow Agent that is executed by the Stockholders' Representative and that instructs the Escrow Agent as to the disbursement of some or all of the Reimbursement Fund. Upon receipt by the Escrow Agent of a written instrument that is executed by the Stockholders' Representative and that instructs the Escrow Agent as to the disbursement of some or all of the Reimbursement Fund, the Escrow Agent shall within five (5) business days of such instruction disburse to the Stockholders' Representative the amount so instructed in such written instrument whereupon the then current Reimbursement Fund balance shall be reduced by such amount. In the event the Reimbursement Fund is unavailable or insufficient to satisfy in full the out-of-pocket fees and expenses of and other obligations to or of the Stockholders' Representative, then upon receipt by the Escrow Agent of a written instrument that is executed by the Stockholders' Representative and that instructs the Escrow Agent as to the disbursement of some or all of the Escrow Fund in satisfaction of the out-of-pocket fees and expenses of and other obligations to or of the Stockholders' Representative, the Escrow Agent shall within two (2) business days of such instruction disburse to the Stockholders' Representative the amount so instructed in such written instrument whereupon the then current Escrow Fund balance shall be reduced by such amount.

(g) **Distribution of Earnings; Tax Reporting.** Any interest or income earned on the Reimbursement Proceeds (or any cash dividends or taxable stock dividends paid with respect to the Reimbursement Shares) shall be paid to the Stockholders at least annually in accordance with their respective proportionate interests in the Reimbursement Fund. For tax reporting purposes, all interest or other income earned from the investment of the Reimbursement Proceeds (and all cash dividends or taxable stock dividends earned in respect of the Reimbursement Shares) in any tax year shall, to the extent such interest or other income is distributed by the Escrow Agent to any person or entity pursuant to the terms of this Agreement during such tax year, be reported as allocated to such person or entity.

ARTICLE VI

MISCELLANEOUS

6.1 Successors and Assigns. This Agreement shall be binding upon and shall inure to the benefit of Stockholders (by and through the Stockholders' Representative), CIENA and the Escrow Agent, and their respective successors and assigns, whether so expressed or not.

6.2 Waiver of Consent. No failure or delay on the part of any party hereto in exercising any power or right hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right or power, or any abandonment or discontinuance of steps to enforce such a right or power, preclude any other or further exercise thereof or the exercise of any other right or power. The rights and remedies of the parties hereunder are cumulative and not exclusive of any rights or remedies which they would otherwise have. No modification or waiver of any provision of this Agreement, nor consent to any departure by any party therefrom, shall in any event be effective unless the same shall be in writing, and then such waiver or consent shall be effective only in the specific instance and for the purpose for which given. No notice to or demand on any party in any case shall entitle such party to any other or further notice or demand in similar or other circumstances.

6.3 Captions. The Article and Section captions used herein are for reference purposes only and shall not in any way affect the meaning or interpretation of this Agreement.

6.4 Notices. Any notice or other communication required or permitted hereunder shall be sufficiently given if delivered in person or sent by telecopy or by registered or certified mail or by recognized overnight courier, postage prepaid, addressed as follows:

If to CIENA, to:

CIENA Corporation
1201 Winterson Road
Linthicum, Maryland 21090
Attention: General Counsel
Telecopy: (410) 865-8931

with a copy to its counsel:

Hogan & Hartson L.L.P.
111 South Calvert Street, 16th Floor
Baltimore, Maryland 21202
Attention: Michael J. Silver
Telecopy: (410) 659-2741

if to the Escrow Agent, to:

U.S. Bank Trust National Association
100 Wall Street, Suite 1600
New York, New York 10005
Attention: Jean Clarke
Telecopy: (212) 361-6173

if to the Stockholders' Representative, to:

Sprout Capital IX, L.P.
Eleven Madison Avenue, 26th Floor
New York, New York 10010
Attention: Wayne Nemeth
Telecopy: (212) 538-8245

with a copy to its counsel:

Sonnenschein Nath & Rosenthal LLP
1221 Avenue of the Americas
New York, New York 10020
Attention: Michael R. Flynn
Telecopy: (212) 768-6800

Such notice or communication shall be deemed to have been given as of the date so delivered, sent by telecopy or mailed.

6.5 Counterparts. This Agreement may be executed in two or more counterparts, all of which shall be considered one and the same agreement and each of which shall be deemed an original.

6.6 Governing Law. The interpretation and construction of this Agreement, and all matters relating thereto, shall be governed by the laws of the State of Delaware, without regard to the choice of law provisions thereof. The non-prevailing party in any dispute arising hereunder shall bear and pay the costs and expenses (including without limitation reasonable attorneys' fees and expenses) incurred by the prevailing party or parties in connection with resolving such dispute.

6.7 Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction or other authority to be invalid, void, unenforceable or against its regulatory policy, the remainder of the terms, provisions, covenants and restrictions of this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

6.8 Amendments and Waivers. The provisions of this Agreement, including the provisions of this sentence, may not be amended, modified or supplemented, and waivers or consents to departures from the provisions hereof may not be given without the written consent of CIENA, the Stockholders' Representative and the Escrow Agent, and any amendment or waiver hereunder shall be effective and binding upon all Stockholders if signed by the Stockholders' Representative.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, CIENA and the Escrow Agent have caused their corporate names to be hereunto subscribed by their respective officers thereunto duly authorized, and the Stockholders' Representative has executed this Agreement, all as of the day and year first above written.

CIENA CORPORATION

By:

Name:

Title:

STOCKHOLDERS' REPRESENTATIVE:

SPROUT CAPITAL IX, L.P.

By: DLJ Capital Corporation,
its managing general partner

By:

Name:

Title:

U.S. BANK TRUST NATIONAL ASSOCIATION

By:

Authorized Officer

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 20. Indemnification of Directors and Officers

Under Section 145 of the DGCL, a corporation may indemnify its directors, officers, employees and agents and its former directors, officers, employees and agents and those who serve, at the corporation's request, in such capacities with another enterprise, against expenses (including attorneys' fees), as well as judgments, fines and settlements in nonderivative lawsuits, actually and reasonably incurred in connection with the defense of any action, suit or proceeding in which they or any of them were or are made parties or are threatened to be made parties by reason of their serving or having served in such capacity. The DGCL provides, however, that such person must have acted in good faith and in a manner such person reasonably believed to be in (or not opposed to) the best interests of the corporation and, in the case of a criminal action, such person must have had no reasonable cause to believe his or her conduct was unlawful. In addition, the DGCL does not permit indemnification in an action or suit by or in the right of the corporation, where such person has been adjudged liable to the corporation, unless, and only to the extent that, a court determines that such person fairly and reasonably is entitled to indemnity for costs the court deems proper in light of liability adjudication. Indemnity is mandatory to the extent a claim, issue or matter has been successfully defended.

The Third Restated Certificate of Incorporation of CIENA (the "CIENA Certificate") contains provisions that provide that no director of CIENA shall be liable for breach of fiduciary duty as a director, except for: (1) any breach of the directors' duty of loyalty to CIENA or its stockholders; (2) acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of the law; (3) liability under Section 174 of the DGCL; or (4) any transaction from which the director derived an improper personal benefit. The CIENA Certificate contains provisions that further provide for the indemnification of directors and officers to the fullest extent permitted by the DGCL. Under the bylaws of CIENA, CIENA is required to advance expenses incurred by an officer or director in defending any such action if the director or officer undertakes to repay such amount if it is determined that the director or officer is not entitled to indemnification. In addition, CIENA has entered into indemnity agreements with each of its directors pursuant to which CIENA has agreed to indemnify the directors as permitted by the DGCL. CIENA has obtained directors and officers liability insurance against certain liabilities, including liabilities under the Securities Act.

Item 21. Exhibits and Financial Statement Schedules

(a) Exhibits

INDEX TO EXHIBITS

2.1	Agreement and Plan of Merger dated as of February 18, 2004 by and among CIENA Corporation, Internet Photonics, Inc., Gregory W. Koss and Steven M. Waszak (filed herewith in Annex A to the information statement/prospectus)
2.2	First Amendment to Agreement and Plan of Merger, dated March 17, 2004 (filed herewith in Annex A to the information statement/prospectus).
5.1	Hogan & Hartson L.L.P. Opinion
8.1	Hogan & Hartson L.L.P. Tax Opinion
8.2	Sonnenschein Nath & Rosenthal LLP Tax Opinion
23.1	Consent of PricewaterhouseCoopers LLP
23.2	Consent of Hogan & Hartson L.L.P. (included as part of Exhibits 5.1 and 8.1)
23.3	Consent of Sonnenschein Nath & Rosenthal LLP (included as part of Exhibit 8.2)
24.1	Power of Attorney*
99.1	Form of Escrow Agreement by and between CIENA Corporation, U.S. Bank Trust, N.A. and Sprout Capital IX, L.P., as stockholders' representative (filed herewith as Annex D to the information statement/prospectus)

* previously filed

Item 22. Undertakings

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes to respond to requests for information that is incorporated by reference into the prospectus pursuant to Item 4, 10(b), 11 or 13 of this form, within one business day of receipt of such request, and to send the incorporated documents by first class mail or other equally prompt means. This includes information contained in documents filed subsequent to the effective date of this Registration Statement through the date of responding to the request.

The undersigned registrant hereby undertakes to supply by means of a post-effective amendment all information concerning a transaction, and the company being acquired involved therein, that was not the subject of and included in the registration statement when it became effective.

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in this Registration Statement.

provided, however, that paragraphs (1)(i) and (1)(ii) do not apply if the registration statement is on Form S-3, Form S-8 or Form F-3, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

The undersigned registrant hereby undertakes as follows: that prior to any public reoffering of the securities registered hereunder through the use of a prospectus which is a part of this registration statement, by any person or party who is deemed to be an underwriter within the meaning of Rule 145(c), the issuer undertakes that such reoffering prospectus will contain the information called for by the applicable registration form with respect to reofferings by persons who may be deemed underwriters, in addition to the information called for by the other items of the applicable form.

The registrant undertakes that every prospectus: (i) that is filed pursuant to the immediately preceding paragraph, or (ii) that purports to meet the requirements of Section 10(a)(3) of the Act and is used in connection with an offering of securities subject to Rule 415, will be filed as a part of an amendment to the registration statement and will not be used until such amendment is effective, and that, for purposes of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act, CIENA Corporation has duly caused this Pre-Effective Amendment No. 1 to Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Linthicum, Maryland, on this 25th day of March, 2004.

CIENA CORPORATION

/s/ RUSSELL B. STEVENSON, JR.

Russell B. Stevenson, Jr.
Senior Vice President, General Counsel
and Secretary

Pursuant to the requirements of Securities Act of 1933, this Pre-Effective Amendment No. 1 to Registration Statement has been signed by the following persons in the capacities and on the date indicated.

March 25, 2004

By: /s/ PATRICK H. NETTLES, PH.D.*

Patrick H. Nettles, Ph.D.
Executive Chairman of the
Board of Directors

March 25, 2004

/s/ GARY B. SMITH*

Gary B. Smith
President, Chief Executive Officer
and Director
(Principal Executive Officer)

March 25, 2004

/s/ JOSEPH R. CHINNICI*

Joseph R. Chinnici
Sr. Vice President, Finance and
Chief Financial Officer
(Principal Financial Officer)

March 25, 2004

/s/ ANDREW C. PETRIK*

Andrew C. Petrik
Vice President, Controller and Treasurer
(Principal Accounting Officer)

Stephen P. Bradley
Director

Harvey B. Cash
Director

March 25, 2004

/s/ DON H. DAVIS, JR.*

Don H. Davis, Jr.
Director

March 25, 2004

/s/ JOHN R. DILLON*

John R. Dillon
Director

March 25, 2004

/s/ LAWTON W. FITT*

Lawton W. Fitt
Director

March 25, 2004

/s/ JUDITH M. O'BRIEN*

Judith M. O'Brien
Director

March 25, 2004

/s/ GERALD H. TAYLOR*

Gerald H. Taylor
Director

* pursuant to power of attorney

By: /s/ RUSSELL B. STEVENSON, JR.

Russell B. Stevenson, Jr.
Attorney-in-Fact

INDEX TO EXHIBITS

2.1	Agreement and Plan of Merger dated as of February 18, 2004 by and among CIENA Corporation, Internet Photonics, Inc., Gregory W. Koss and Steven M. Waszak (filed herewith in Annex A to the information statement/prospectus)
2.2	First Amendment to Agreement and Plan of Merger, dated March 17, 2004 (filed herewith in Annex A to the information statement/prospectus).
5.1	Hogan & Hartson L.L.P. Opinion
8.1	Hogan & Hartson L.L.P. Tax Opinion
8.2	Sonnenschein Nath & Rosenthal LLP Tax Opinion
23.1	Consent of PricewaterhouseCoopers LLP
23.2	Consent of Hogan & Hartson L.L.P. (included as part of Exhibits 5.1 and 8.1)
23.3	Consent of Sonnenschein Nath & Rosenthal LLP (included as part of Exhibit 8.2)
24.1	Power of Attorney*
99.1	Form of Escrow Agreement by and between CIENA Corporation, U.S. Bank Trust, N.A. and Sprout Capital IX, L.P., as stockholders' representative (filed herewith as Annex D to the information statement/prospectus)

* previously filed

[Hogan & Hartson L.L.P. Letterhead]

March 25, 2004

Board of Directors
CIENA Corporation
1201 Winterson Road
Linthicum, Maryland 21090

Ladies and Gentlemen:

We are acting as counsel to CIENA Corporation, a Delaware corporation (the "**Company**"), in connection with its registration statement on Form S-4, as amended (the "**Registration Statement**"), filed with the Securities and Exchange Commission relating to the registration of up to 24,080,843 shares of the Company's common stock, par value \$0.01 per share (the "**Shares**"), pursuant to the terms of the Agreement and Plan of Merger dated as of February 18, 2004, as amended, by and among the Company, Internet Photonics, Inc. ("**IPI**") and certain officers of IPI (together with all amendments, the "**Merger Agreement**"), which provides for the merger of IPI with and into the Company with the Company surviving the merger and related transactions (the "**Merger**"). This opinion letter is furnished to you at your request to enable you to fulfill the requirements of Item 601(b)(5) of Regulation S-K, 17 C.F.R. § 229.601(b)(5), in connection with the Registration Statement.

For purposes of this opinion letter, we have examined copies of the following documents:

1. An executed copy of the Registration Statement.
 2. An executed copy of the Merger Agreement.
 3. Resolutions of the Board of Directors of the Company adopted at a special meeting held on February 18, 2004, as certified by the Secretary of the Company on the date hereof as being complete, true, accurate, and in effect, relating to (a) the issuance and sale of the Shares pursuant to the terms of the Merger Agreement and arrangements in connection therewith; (b) the assumption of the Internet Photonics, Inc. 2000 Corporate Stock Option Plan (the "**Stock Option Plan**") and the issuance of Shares pursuant to the Stock Option Plan; and (c) the assumption of the outstanding warrants to purchase the preferred stock of IPI (together, the "**Warrants**") and the issuance of Shares pursuant to such Warrants.
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4. The Third Restated Certificate of Incorporation of the Company, as amended, as certified by the Secretary of State of the State of Delaware on March 25, 2004 and by the Secretary of the Company on the date hereof as being complete, accurate, and in effect.
5. The Amended and Restated Bylaws of the Company, as certified by the Secretary of the Company on the date hereof as being complete, accurate, and in effect.

In our examination of the aforesaid documents, we have assumed the genuineness of all signatures, the legal capacity of all natural persons, the accuracy and completeness of all documents submitted to us, the authenticity of all original documents, and the conformity to authentic original documents of all documents submitted to us as copies (including telecopies). This opinion letter is given, and all statements herein are made, in the context of the foregoing.

This opinion letter is based as to matters of law solely on the Delaware General Corporation Law, as amended. We express no opinion herein as to any other laws, statutes, ordinances, rules, or regulations. As used herein, the term "Delaware General Corporation Law, as amended" includes the statutory provisions contained therein, all applicable provisions of the Delaware Constitution and reported judicial decisions interpreting these laws.

Based upon, subject to and limited by the foregoing, we are of the opinion that (i) following completion of the Merger pursuant to the Delaware General Corporation Law, as amended, and the Merger Agreement and (ii) in the case of the Shares issuable upon exercise of options and warrants, following issuance of such Shares in accordance with the terms of (a) the option agreements issued under the Stock Option Plan, or (b) the Warrants, the Shares will be validly issued, fully paid, and nonassessable.

This opinion letter has been prepared for your use in connection with the Registration Statement. We assume no obligation to advise you of any changes in the foregoing subsequent to the delivery of this opinion letter.

We hereby consent to the filing of this opinion letter as Exhibit 5.1 to the Registration Statement and to the reference to this firm under the caption "Legal Matters" in the prospectus constituting a part of the Registration Statement. In giving this consent, we do not thereby admit that we are an "expert" within the meaning of the Securities Act of 1933, as amended.

Very truly yours,

/S/ HOGAN & HARTSON L.L.P.

[Hogan & Hartson L.L.P. Letterhead]

March 24, 2004

Board of Directors
CIENA Corporation
1201 Winterson Road
Linthicum, Maryland 21090

Gentlemen/Ladies:

This opinion is being delivered to you in connection with the proposed merger of Internet Photonics, Inc. (the "Company"), a Delaware corporation, with and into CIENA Corporation ("CIENA"), a Delaware corporation, with the separate corporate existence of the Company ceasing and CIENA continuing as the surviving corporation (the "Merger"). The Merger will be consummated pursuant to the Agreement and Plan of Merger (the "Agreement"), dated as of February 18, 2004, as amended on March 17, 2004, by and among CIENA, the Principal Officers and the Company.

In connection with the preparation of this opinion, we have examined and with your consent relied upon (without any independent investigation or review thereof) the following documents (including all exhibits and schedules thereto): (1) the Agreement; (2) the Registration Statement on Form S-4 filed with the Securities and Exchange Commission (the "Registration Statement") and/or the Proxy Statement/Prospectus of CIENA and the Company; (3) factual representations and certifications made to us by CIENA; (4) factual representations and certifications made to us by the Company; (5) such other instruments and documents related to the formation, organization and operation of CIENA and the Company or to the consummation of the Merger and the transactions contemplated thereby as we have deemed necessary or appropriate. In addition, we have reviewed the form of opinion of counsel received by the Company from Sonnenschein Nath & Rosenthal LLP, with respect to the tax consequences of the proposed transaction (the "Sonnenschein Opinion").^{1/}

The Proposed Transaction

^{1/} All capitalized terms used herein and not otherwise defined shall have the same meaning as they have in the Agreement. All section references, unless otherwise indicated, are to the Internal Revenue Code of 1986, as amended (the "Code").

Based solely upon our review of the documents set forth above, and upon such information as CIENA and the Company have provided to us (which we have not attempted to verify in any respect), and in reliance upon such documents and information, we understand that the proposed transaction and the relevant facts with respect thereto are as follows:

CIENA is a leader in innovative networking solutions to service providers worldwide. The Company designs, manufactures, and markets equipment and software used to send voice, video, and data traffic across optical networks.

For the reasons set forth in the Registration Statement, it is proposed that pursuant to the Agreement and the laws of the State of Delaware, the Company merge with and into CIENA. The Company's separate corporate existence will cease and CIENA will be the surviving corporation (the "Surviving Corporation"). As the Surviving Corporation, CIENA will succeed to all of the assets and liabilities of the Company under Delaware corporate law.

By virtue of the Merger, each share of Company Capital Stock issued and outstanding at the Effective Time will be converted into and become exchangeable for the right to receive CIENA Common Stock in amounts determined pursuant to the Exchange Ratios. Fractional shares of CIENA Common Stock will not be issued in the Merger. Rather, each holder of Company Capital Stock who would otherwise have been entitled to receive a fractional share will receive a cash payment in lieu thereof in an amount determined by multiplying (i) the per share price on the Nasdaq National Market of CIENA Common Stock on the date on which the Effective Time shall occur by (ii) the fractional share to which such holder would otherwise be entitled. Dissenting Shares will be entitled to receive such consideration determined to be due with respect to such shares in accordance with Section 262 of the DGCL.

Assumptions and Representations

In connection with rendering this opinion, we have assumed or obtained representations (and, with your consent, are relying thereon, without any independent investigation or review thereof, although we are not aware of any material facts or circumstances contrary to or inconsistent therewith) that:

1. All information contained in each of the documents we have examined and relied upon in connection with the preparation of this opinion is accurate and completely describes all material facts relevant to our opinion, all copies are accurate and all signatures are genuine. We have also assumed that there has been (or will be by the Effective Time of the Merger) due execution and delivery of all documents where due execution and delivery are prerequisites to the effectiveness thereof.
 2. The Merger will be consummated in accordance with applicable state law and will qualify as a statutory merger under applicable state law.
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3. All representations made in the exhibits hereto are true, correct, and complete in all material respects. Any representation or statement made “to the best of knowledge” or similarly qualified is correct without such qualification.

4. The Merger will be consummated in accordance with the Agreement and as described in the Registration Statement (including satisfaction of all covenants and conditions to the obligations of the parties without amendment or waiver thereof); CIENA and the Company will comply with all reporting obligations with respect to the Merger required under the Code and the Treasury Regulations thereunder; and the Agreement and all other documents and instruments referred to therein or in the Registration Statement are valid and binding in accordance with their terms.

5. The Sonnenschein Opinion has been concurrently delivered and not withdrawn.

Opinion — U.S. Federal Income Tax Consequences

Based upon and subject to the assumptions and qualifications set forth herein, we are of the opinion that the discussion in the Registration Statement under the caption “U.S. Federal Income Tax Consequences,” to the extent that it purports to describe provisions of federal income tax law or legal conclusions with respect thereto, is correct in all material respects as of the date hereof.

In addition to the assumptions set forth above, this opinion is subject to the exceptions, limitations and qualifications set forth below:

1. This opinion represents and is based upon our best judgment regarding the application of relevant current provisions of the Code and interpretations of the foregoing as expressed in existing court decisions, administrative determinations (including the practices and procedures of the Internal Revenue Service (the “IRS”) in issuing private letter rulings, which are not binding on the IRS except with respect to the taxpayer that receives such a ruling) and published rulings and procedures all as of the date hereof. An opinion of counsel merely represents counsel’s best judgment with respect to the probable outcome on the merits and is not binding on the IRS or the courts. There can be no assurance that positions contrary to our opinions will not be taken by the IRS, or that a court considering the issues would not hold contrary to such opinions. CIENA has not requested a ruling from the IRS (and no ruling will be sought) as to any of the federal income tax consequences addressed in this opinion. Furthermore, no assurance can be given that future legislative, judicial or administrative changes, on either a prospective or retroactive basis, would not adversely affect the accuracy of the opinion expressed herein. Nevertheless, we undertake no responsibility to advise you of any new developments in the law or in the application or interpretation of the federal income tax laws after the Effective Time.

2. This letter addresses only the specific tax opinions set forth above. This letter does not address any other federal, state, local or foreign tax consequences that may result from the Merger or any other transaction (including any transaction undertaken in connection with the Merger). We express no opinion regarding, among other things, the tax consequences of the Merger (including the opinion set forth above) as applied to specific stockholders of the Company that may be relevant to particular classes of the Company shareholders, such as dealers in securities, corporate shareholders subject to the alternative minimum tax, foreign persons, and holders of shares acquired upon exercise of stock options or in other compensatory transactions.

3. Our opinion set forth herein is based upon the description of the contemplated transactions as set forth above in the section captioned "The Proposed Transaction," the Agreement and the Registration Statement. If the actual facts relating to any aspect of the transactions differ from this description in any material respect, our opinion may become inapplicable. No opinion is expressed as to any transaction other than those set forth in the section captioned "The Proposed Transaction," the Agreement and the Registration Statement or to any transaction whatsoever, including the Merger, if all the transactions described in the section captioned "The Proposed Transaction," the Agreement and the Registration Statement are not consummated in accordance with the terms of the section captioned "The Proposed Transaction," the Agreement and the Registration Statement and without waiver or breach of any material provision thereof or if all of the representations, warranties, statements and assumptions upon which we relied are not true and accurate at all relevant times. In the event any one of the statements, representations, warranties or assumptions upon which we have relied to issue this opinion is incorrect, our opinion might be adversely affected and may not be relied upon.

This opinion letter has been provided for your use in connection with the Registration Statement. We hereby consent to the use of the opinion letter as an exhibit to the Registration Statement and to the use of our name in the U.S. Federal Income Tax Consequences and Legal Matters sections of the Registration Statement. In giving the consent, we do not thereby admit that we are an "expert" within the meaning of the Securities Act of 1933, as amended.

Sincerely yours,

/s/ HOGAN & HARTSON L.L.P.

[LETTERHEAD OF SONNENSCHN NATH & ROSENTHAL LLP]

March 25, 2004

Board of Directors
Internet Photonics, Inc.
1030 Broad Street, Suite 200
Shrewsbury, New Jersey 07702-4330

Ladies and Gentlemen:

We have acted as counsel to Internet Photonics, Inc. ("Internet Photonics"), a Delaware corporation, in connection with (i) the Merger, as defined and described in the Agreement and Plan of Merger, dated as of February 18, 2004, as amended March 17, 2004 (the "Merger Agreement"), among Internet Photonics, the Principal Officers and CIENA Corporation ("CIENA"), a Delaware corporation, and (ii) the preparation and filing of the Registration Statement on Form S-4 with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended ("Securities Act"), on March 25, 2004 (the "Registration Statement"), which includes the Information Statement/Prospectus of CIENA (the "Information Statement/Prospectus"). Unless otherwise indicated, each capitalized term used herein has the meaning ascribed to it in the Merger Agreement.

In connection with this opinion, we have examined the Merger Agreement, the Information Statement/Prospectus and such other documents and corporate records as we have deemed necessary or appropriate in order to enable us to render the opinion below. For purposes of this opinion, we have assumed (i) the validity and accuracy of the documents and corporate records that we have examined, (ii) the accuracy of representations made (and, with your consent, are relying thereon, without any independent investigation or review thereof, although we are not aware of any material facts or circumstances contrary to or inconsistent therewith), (iii) that any representation or statement made "to the best of knowledge" or similarly qualified is correct without such qualification and (iv) that the Merger will be consummated in the manner described in the Merger Agreement and the Information Statement/Prospectus in accordance with applicable state law as a statutory merger.

Subject to the assumptions set forth above and the assumptions and qualifications set forth in the discussion in the Information Statement/Prospectus under the heading "U.S. Federal Income Tax Consequences" (the "Discussion"), we hereby confirm that the Discussion, to the

extent that it purports to describe provisions of U.S. federal income tax law or legal conclusions with respect thereto, is correct in all material respects as of the date hereof. We express no opinion as to whether the Discussion addresses all of the U.S. federal income tax consequences of the Merger. In addition, we express no opinion as to the U.S. federal, state, local, foreign or other tax consequences of the Merger, other than as set forth herein. Further, there can be no assurances that the opinion expressed herein will be accepted by the Internal Revenue Service (the "IRS") or, if challenged, by a court. This opinion is delivered in accordance with the requirements of Item 601(b)(8) of Regulation S-K under the Securities Act.

In rendering our opinion, we have considered the applicable provisions of the Tax Code, Treasury Department regulations promulgated thereunder, pertinent judicial authorities, interpretive rulings of the IRS and such other authorities as we have considered relevant. It should be noted that statutes, regulations, judicial decisions and administrative interpretations are subject to change at any time (possibly with retroactive effect). A change in the authorities or the accuracy or completeness of any of the information, documents, corporate records, covenants, statements, representations or assumptions on which our opinion is based could affect our conclusions. This opinion is expressed as of the date hereof, and we are under no obligation to supplement or revise our opinion to reflect any changes (including changes that have retroactive effect) (i) in applicable law or (ii) in any information, document, corporate record, covenant, statement, representation or assumption stated herein, which becomes untrue or incorrect.

This letter is furnished to you solely for use in connection with the Merger, as described in the Merger Agreement and the Information Statement/Prospectus, and is not to be used, circulated, quoted, or otherwise referred to for any other purpose without our express written permission. In accordance with the requirements of Item 601(b)(23) of Regulation S-K under the Securities Act, we hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the reference to our firm name under the headings "SUMMARY — U.S. Federal Income Tax Consequences", "THE MERGER — U. S. Federal Income Tax Consequences", and "OTHER MATTERS — Legal Matters" in the Information Statement/Prospectus. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ SONNENSCHN NATH & ROSENTHAL LLP

Sonnenschein Nath & Rosenthal LLP

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in this Pre-effective Amendment No. 1 to Registration Statement on Form S-4 of CIENA Corporation of our report dated December 9, 2003 relating to the financial statements, which appears in CIENA Corporation's Annual Report on Form 10-K for the year ended October 31, 2003. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/PricewaterhouseCoopers LLP

McLean, Virginia
March 25, 2004