
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

**POST-EFFECTIVE AMENDMENT NO. 1 TO FORM S-4
ON**

FORM S-8

**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)

23-2725311

(I.R.S. Employer Identification No.)

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

(Address, including zip code, and telephone number,
including area code, of registrant's principal executive offices)

Catena Networks, Inc.
1998 Equity Incentive Plan

(Full Title of the Plan)

Russell B. Stevenson, Jr.
Senior Vice President, General Counsel and Secretary
CIENA Corporation
1201 Winterson Road
Linthicum, Maryland 21090
(410) 865-8500

(Name, address and telephone number, including area code, of agent for service)

Copy to:
Michael J. Silver
Amy Bowerman Freed
Thene M. Martin
Hogan & Hartson L.L.P.
111 South Calvert Street
Baltimore, Maryland 21202
(410) 659-2700

EXPLANATORY NOTE

CIENA Corporation (the "Registrant") is filing this Post-Effective Amendment No. 1 to Form S-4 on Form S-8 to register the issuance of 8,121,327 shares of common stock under the Catena Networks, Inc. 1998 Equity Incentive Plan that the Registrant has assumed pursuant to the Agreement and Plan of Merger dated February 18, 2004, as amended, between the Registrant, Gudmundur Hjartarson, Kevin Forbes, Richard DeGabrielle, Jeffrey Reece and Catena Networks, Inc., a Delaware corporation, pursuant to which Catena Networks merged with and into the Registrant effective May 3, 2004.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The documents containing the information specified in Part I will be sent or given to employees as specified by Rule 428(b)(1) of the Securities Act of 1933 (the "Securities Act"). In accordance with the instructions to Part I of Form S-8, such documents will not be filed with the Securities and Exchange Commission (the "Commission"). These documents and the documents incorporated by reference pursuant to Item 3 of Part II of this registration statement, taken together, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The Registrant hereby incorporates by reference into this registration statement the following documents filed by it with the Commission:

- (a) The Registrant's Form 10-K for the fiscal year ended October 31, 2003, filed with the Commission on December 11, 2003;
- (b) All reports filed with the Commission pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), since October 31, 2003, including the Registrant's Quarterly Report on Form 10-Q for the quarter ended January 31, 2004, filed with the Commission on February 19, 2004, and the Registrant's Current Reports on Form 8-K filed with the Commission on November 18, 2003, December 22, 2003, February 19, 2004, April 20, 2004 and May 3, 2004; and
- (c) The description of the Registrant's Common Stock, \$.01 par value per share ("Common Stock"), contained in the Registrant's Registration Statement on Form 8-A filed with the Commission on January 13, 1997, including all amendments and reports filed under Section 13(a) or 15(d) of the Exchange Act for purposes of updating the description of Common Stock.

In addition, all documents and reports filed by the Registrant subsequent to the date hereof pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment to this registration statement which indicates that all securities offered have been sold or which deregisters all securities remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be part hereof from the date of filing of such documents or reports. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained herein or in any other subsequent filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement.

Item 4. Description of Securities.

Not applicable (the Common Stock is registered under Section 12(g) of the Exchange Act).

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

Under Section 145 of the Delaware General Corporation Law (“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 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

<u>Exhibit Number</u>	<u>Description</u>
4.1 (1)	Specimen Stock Certificate
4.2 (2)	Rights Agreement dated December 29, 1997
4.3 (3)	Amendment to Rights Agreement dated June 2, 1998
4.4 (4)	Amendment No. 2 to Rights Agreement dated September 13, 1998
4.5 (5)	Amendment No. 3 to Rights Agreement dated October 14, 1998
5.1	Opinion of Hogan & Hartson L.L.P. (previously filed)
23.1	Consent of Hogan & Hartson L.L.P. (contained in Exhibit 5.1)
23.2	Consent of PricewaterhouseCoopers LLP (filed herewith)
24.1	Power of Attorney (previously filed with signature page)

- (1) Incorporated by reference from the Registrant's Registration Statement on Form S-1 (No. 333-17729).
- (2) Incorporated by reference from the Registrant's Form 8-K filed on December 29, 1997.
- (3) Incorporated by reference from the Registrant's Form 8-K filed on June 3, 1998.
- (4) Incorporated by reference from the Registrant's Form 8-K filed September 14, 1998.
- (5) Incorporated by reference from the Registrant's Form 8-K filed October 19, 1998.

Item 9. Undertakings.

(a) 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 a 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 the registration statement;

provided, however, that paragraphs (a)(1)(i) and (a)(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 Section 15(d) of the Securities Exchange Act 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.

(b) 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 Section 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.

(c) 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.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Linthicum, State of Maryland, on this 7th day of May, 2004.

CIENA CORPORATION

By: /S/ RUSSELL B. STEVENSON, JR.
Russell B. Stevenson, Jr.
Senior Vice President, General Counsel and
Secretary

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the date indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u> /S/ PATRICK H. NETTLES, PH.D.* </u> Patrick H. Nettles, Ph.D.	Executive Chairman	May 7, 2004
<u> /S/ GARY B. SMITH* </u> Gary B. Smith	President, Chief Executive Officer and Director (Principal Executive Officer)	May 7, 2004
<u> /S/ JOSEPH R. CHINNICI* </u> Joseph R. Chinnici	Senior Vice President, Finance and Chief Financial Officer (Principal Financial Officer)	May 7, 2004
<u> /S/ ANDREW C. PETRIK* </u> Andrew C. Petrik	Vice President, Controller and Treasurer (Principal Accounting Officer)	May 7, 2004
<u> </u> Stephen P. Bradley	Director	
<u> </u> Harvey B. Cash	Director	
<u> /S/ DON H. DAVIS, JR.* </u> Don H. Davis, Jr.	Director	May 7, 2004
<u> /S/ JOHN R. DILLON* </u> John R. Dillon	Director	May 7, 2004

/S/ LAWTON W. FITT*

Director

May 7, 2004

Lawton W. Fitt

/S/ JUDITH M. O'BRIEN*

Director

May 7, 2004

Judith M. O'Brien

/S/ GERALD H. TAYLOR*

Director

May 7, 2004

Gerald H. Taylor

*Pursuant to Power of Attorney

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

Russell B. Stevenson, Jr.
Attorney-in-Fact

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CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated December 9, 2003 relating to the financial statements of CIENA Corporation, which appears in CIENA Corporation's Annual Report on Form 10-K for the year ended October 31, 2003.

/s/ PricewaterhouseCoopers LLP

McLean, VA
May 5, 2004