

SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

SCHEDULE 13G  
(Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILES PURSUANT  
TO RULES 13d-1(b), (c) AND (d) AND AMENDMENTS THERETO FILED  
PURSUANT TO RULE 13d-2(b)  
(Amendment No. ) [1]

NuVasive, Inc.

(Name of Issuer)

Common Stock, \$.001 par value

(Title of Class of Securities)

670704 10 5

May 12, 2004

Date of Event Which Requires Filing of this Statement

Check the appropriate box to designate the rule pursuant to which this Schedule is Filed:

- Rule 13d-1(b)
- Rule 13d-1(c)
- Rule 13d-1(d)

[1]The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page. The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act.

1) Name of Reporting Person Domain Partners  
 I.R.S. Identification IV, L.P.  
 No. of Above Person  
 (Entities Only)

2) Check the Appropriate Box (a)   
 if a Member of a Group (b)

3) SEC Use Only

4) Citizenship or Place of Organization Delaware

Number of Shares Beneficially Owned by Each Reporting Person With 5) Sole Voting Power 1,752,455 shares of Common Stock

6) Shared Voting Power	-0-
-----	
7) Sole Dispositive Power	1,752,455 shares of Common Stock
-----	
8) Shared Dispositive Power	-0-
-----	
9) Aggregate Amount Beneficially Owned by Each Reporting person	1,752,455 shares of Common Stock
-----	
10) Check if the Aggregate Amount in Row (9) Excludes Certain Shares	
-----	
11) Percent of Class Represented by Amount in Row (9)	7.3%
-----	
12) Type of Reporting Person	PN

CUSIP No. 670704 10 5

Page 3 of 10 Pages

1) Name of Reporting Person I.R.S. Identification No. of Above Person (Entities Only)	DP IV Associates, L.P.
-----	
2) Check the Appropriate Box if a Member of a Group	(a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>
-----	
3) SEC Use Only	
-----	
4) Citizenship or Place of Organization	Delaware
-----	
Number of Shares Beneficially Owned by Each Reporting Person With	5) Sole Voting Power 31,204 shares of Common Stock
-----	
6) Shared Voting Power	-0-
-----	
7) Sole Dispositive Power	31,204 shares of Common Stock
-----	
8) Shared Dispositive Power	-0-
-----	
9) Aggregate Amount Beneficially Owned by Each Reporting person	31,204 shares of Common Stock
-----	
10) Check if the Aggregate Amount in Row (9) Excludes Certain Shares	
-----	
11) Percent of Class Represented by Amount in Row (9)	0.1%
-----	
12) Type of Reporting Person	PN

CUSIP No. 670704 10 5

Page 4 of 10 Pages

-----

1) Name of Reporting Person Domain Associates,  
I.R.S. Identification L.L.C.  
No. of Above Person  
(Entities Only)

-----

2) Check the Appropriate Box (a) [X]  
if a Member of a Group (b) [ ]

-----

3) SEC Use Only

-----

4) Citizenship or Place of Organization Delaware

-----

Number of Shares Beneficially Owned by Each Reporting Person With

5) Sole Voting Power 8,000 shares of Common Stock

-----

6) Shared Voting Power -0-

-----

7) Sole Dispositive Power 8,000 shares of Common Stock

-----

8) Shared Dispositive Power -0-

-----

9) Aggregate Amount Beneficially Owned by Each Reporting person 8,000 shares of Common Stock

-----

10) Check if the Aggregate Amount in Row (9) Excludes Certain Shares

-----

11) Percent of Class Represented by Amount in Row (9) less than 0.1%

-----

12) Type of Reporting Person OO

Schedule 13G  
-----

Item 1(a) - Name of Issuer: NuVasive, Inc.

Item 1(b) - Address of Issuer's Principal Executive Offices:  
10065 Old Grove Road  
San Diego, CA 92131

Item 2(a) - Name of Person Filing:  
This statement is being filed by Domain Partners IV, L.P., a Delaware limited partnership ("Domain IV"), DP IV Associates, L.P., a Delaware limited partnership ("DP IV A"), and Domain Associates, L.L.C., a Delaware limited liability company (collectively, the "Reporting Persons").

Item 2(b) - Address of Principal Business Office:  
One Palmer Square  
Princeton, NJ 08542

Item 2(c) - Place of Organization:  
Domain IV: Delaware  
DP IV A: Delaware  
DA: Delaware

- Item 2(d) - Title of Class of Securities:  
Common Stock, \$.001 par value
- Item 2(e) - CUSIP Number: 670704 10 5
- Item 3 - Statements Filed Pursuant to Rules 13d-1(b) or 13d-2(b):  
Not applicable.

CUSIP No. 670704 10 5

Page 6 of 10 Pages

- Item 4 - Ownership.
- (a) Amount Beneficially Owned:
- Domain IV: 1,752,455 shares of Common Stock  
DP IV A: 31,204 shares of Common Stock  
DA: 8,000 shares of Common Stock
- (b) Percent of Class:
- Domain IV: 7.3%  
DP IV A: 0.1%  
DA: less than 0.1%
- (c) Number of shares as to which such person has:
- (i) sole power to vote or to direct the vote:
- Domain IV: 1,752,455 shares of Common Stock  
DP IV A: 31,204 shares of Common Stock  
DA: 8,000 shares of Common Stock
- (ii) shared power to vote or to direct the vote:  
-0-
- (iii) sole power to dispose or to direct the disposition of:
- Domain IV: 1,752,455 shares of Common Stock  
DP IV A: 31,204 shares of Common Stock  
DA: 8,000 shares of Common Stock
- (iv) shared power to dispose or to direct the disposition  
of: -0-

- Item 5 - Ownership of Five Percent or Less of a Class:  
Not applicable.

- Item 6 - Ownership of More than Five Percent on Behalf of Another  
Person:  
Not applicable.

- Item 7 - Identification and Classification of the Subsidiary Which  
Acquired the Security Being Reported on by the Parent  
Company:  
Not applicable.

CUSIP No. 670704 10 5

Page 7 of 10 Pages

- Item 8 - Identification and Classification of Members of the Group:  
See Exhibit 2.
- Item 9 - Notice of Dissolution of Group:  
Not applicable.

Item 10 - Certification:  
Not applicable.

CUSIP No. 670704 10 5

Page 8 of 10 Pages

Signature:

After reasonable inquiry and to the best of their knowledge and belief, the undersigned certify that the information set forth in this statement is true, complete and correct.

DOMAIN PARTNERS IV, L.P.  
By: One Palmer Square Associates  
IV, L.L.C., General Partner

By /s/ Kathleen K. Schoemaker  
-----  
Managing Member

DP IV ASSOCIATES, L.P.  
By: One Palmer Square Associates  
IV, L.L.C., General Partner

By /s/ Kathleen K. Schoemaker  
-----  
Managing Member

DOMAIN ASSOCIATES, L.L.C.

By /s/ Kathleen K. Schoemaker  
-----  
Managing Member

Date: January 5, 2005

CUSIP No. 670704 10 5

Page 9 of 10 Pages

EXHIBIT 1

AGREEMENT OF  
DOMAIN PARTNERS IV, L.P.,  
DP IV ASSOCIATES, L.P.  
AND  
DOMAIN ASSOCIATES, L.L.C.  
PURSUANT TO RULE 13d-1(f)  
-----

The undersigned hereby agree that the Information Statement on Schedule 13G to which this Agreement is annexed as Exhibit 1 is filed on behalf of each of them in accordance with provisions of 13d-1(f) under the Securities Exchange Act of 1934, as amended.

DOMAIN PARTNERS IV, L.P.  
By: One Palmer Square Associates  
IV, L.L.C., General Partner

By /s/ Kathleen K. Schoemaker  
-----  
Managing Member

DP IV ASSOCIATES, L.P.  
By: One Palmer Square Associates  
IV, L.L.C., General Partner

By /s/ Kathleen K. Schoemaker

-----  
Managing Member  
DOMAIN ASSOCIATES, L.L.C.  
By /s/ Kathleen K. Schoemaker  
-----  
Managing Member

Date: January 5, 2005

CUSIP No. 670704 10 5

Page 10 of 10 Pages

EXHIBIT 2

Identification and Classification  
of Members of the Group  
-----

Domain Partners IV, L.P., DP IV Associates, L.P. and Domain Associates, L.L.C. are filing this statement on Schedule 13G as a group.

Domain Partners IV, L.P. is a Delaware limited partnership. Its sole general partner is One Palmer Square Associates IV, L.L.C., a Delaware limited liability company.

DP IV Associates, L.P. is a Delaware limited partnership. Its sole general partner is One Palmer Square Associates IV, L.L.C., a Delaware limited liability company.

Domain Associates, L.L.C. is a Delaware limited liability company.