

MKD  
8-7-01

08-10-2001

ASSIGI



HEET

101805487

To: Honorable Commissioner of Patents and Trademarks:

Please record the attached original document(s) or copy thereof.

1. Name of conveying party(ies)

- a) Sam Heidari
- b) Behrooz Rezvani
- c) Raminder S. Bajwa
- d) Jacky Chow
- e) Avadhani Shridhar
- f) Dale Smith
- g) John Gevargiz
- h) Saman Behtash

2. Name and address of receiving party(ies):

- a) Name: IKANOS Communication, Inc.
- Address: 47709 Fremont Boulevard  
Fremont, CA 94538

3. Nature of conveyance

- |                                     |                    |                          |                   |
|-------------------------------------|--------------------|--------------------------|-------------------|
| <input checked="" type="checkbox"/> | Assignment         | <input type="checkbox"/> | Merger            |
| <input type="checkbox"/>            | Security Agreement | <input type="checkbox"/> | Change of Name    |
| <input type="checkbox"/>            | Other _____        | <input type="checkbox"/> | License Agreement |

Execution Date: 07/26/01, 07/27/01, 07/30/01, 08/01/01, 08/02/01

4. Application Number(s) or Patent Number(s): 09/837,914

Filed: April 18, 2001

The title of the (new) application is: **METHOD & APPARATUS FOR A VARIABLE BANDWIDTH MULTI-PROTOCOL X-DSL TRANSCEIVER**

5. Please send all correspondence concerning this (these) documents to:

CARY & KELLY, LLP  
 1875 Charleston Road  
 Mountain View, CA, 94043  
 Telephone (650) 316-4011

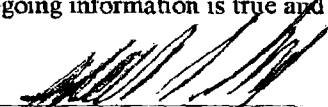
6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41): \$40.00

- Enclosed
- The Commissioner is hereby authorized to charge the above fees and any overpayments or credits to Deposit Account No. 50-1338 (Order No. VELCP010X1)

8. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Date: August 7, 2001

  
 Charles C. Cary  
 Registration No. 36,764

chg 40

Attorney Docket No. VELCP010X1

(Revised 01/96)

**ASSIGNMENT OF PATENT APPLICATION**  
(After Filing Application)

Whereas I/we the undersigned inventor(s) have invented certain new and useful improvements as set forth in the patent application entitled:

**METHOD AND APPARATUS FOR A VARIABLE BANDWIDTH MULTI-PROTOCOL X-DSL TRANSCEIVER**

(Atty. Docket No.: **VELCP010X1**) for which I (we) have executed an application for a United States Letters Patent filed on **April 18, 2001** and allocated USSN **09/837,914**

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/We the undersigned inventor(s) hereby:

- 1) Sell(s), assign(s) and transfer(s) to IKANOS Communication, Inc., a California corporation having a place of business at 47709 Fremont Boulevard, Fremont, CA 94538, (hereinafter referred to as "ASSIGNEE"), the entire right title and interest in any and all improvements and inventions disclosed in, application(s) based upon, and Patent(s) (including foreign patents) granted upon the information which is disclosed in the above referenced application.
- 2) Authorize and request the Commissioner of Patents to issue any and all Letters Patents resulting from said application or any division(s), continuation(s), substitutes(s) or reissue(s) thereof to the ASSIGNEE.
- 3) Agree to execute all papers and documents and, entirely at the ASSIGNEE's expense, perform any acts which are reasonably necessary in connection with the prosecution of said application, as well as any derivative and applications thereof, foreign applications based thereon, and/or the enforcement of patents resulting from such applications.
- 4) Agree that the terms, covenants and conditions of this assignment shall inure to the benefit of the Assignee, its successors, assigns and other legal representative, and shall be binding upon the inventor(s), as well as the inventor's heirs, legal representatives and assigns.
- 5) Warrant and represent that I/we have not entered, and will not enter into any assignment, contract, or understanding that conflicts with this assignment.
- 6) Assignors hereby grant assignee or assignee's designee the right to insert the U.S. Patent Application number and filing date where space is provided above at any time subsequent to the date of the assignor's signature below.

Signed on the date(s) indicated beside my (our) signature(s).

1. **Inventor Signature:** Sam HEIDARI **Date:** 8/1/2001

State of California )  
County of Alameda ) ss.

On this 1st day of August, in the year 2001, before me, Lois Dallas Notary, personally appeared Sam HEIDARI, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is

subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

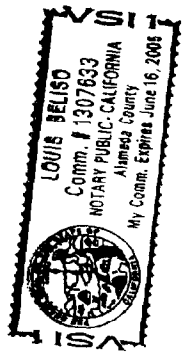
WITNESS my hand and official seal.

Notary Signature *Louis Beliso*

(SEAL)

2. Inventor Signature *Behrooz REZVANI*  
Behrooz REZVANI

Date: 8/1/01



State of California )  
County of Alameda ) ss.

On this 1st day of August, in the year 2001, before me, *Louis Beliso*, Notary, personally appeared Behrooz REZVANI, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

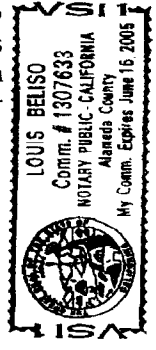
WITNESS my hand and official seal.

Notary Signature *Louis Beliso*

(SEAL)

3. Inventor Signature: *Raminder Singh*  
Raminder S. BAJWA

Date: 7/02/2001

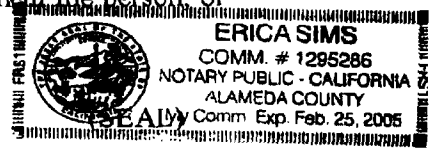


State of California )  
County of Alameda ) ss.

On this 2<sup>nd</sup> day of July August, in the year 2001, before me, *Erica Sims*, personally appeared Raminder S. BAJWA, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that ~~he/she~~ executed the same in ~~his/her~~ authorized capacity(ies), and that by ~~his/her~~ signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature *Erica Sims*



4. Inventor Signature: *Jacky Chow*  
Jacky CHOW

Date: 7/27/01

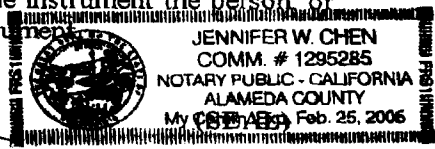
State of California )  
County of Alameda ) ss.

On this 27<sup>th</sup> day of July, in the year 2001, before me, *Jennifer W. Chen*, personally appeared Jacky CHOW, personally known to me

(or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature Jennifer W. Chen  
5. Inventor Signature Avadhani



Date: 8/01/01

Avadhani SHRIDHAR

State of California )  
County of Alameda ) ss.

On this 1st day of August, in the year 2001, before me, Louis Beliso, Notary, personally appeared Avadhani SHRIDHAR, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature Louis Beliso (SEAL)

6. Inventor Signature: Dale Smith  
Dale SMITH

Date: 8/1/01

State of California )  
County of Alameda ) ss.

On this 1st day of August, in the year 2001, before me, Louis Beliso, Notary, personally appeared Dale SMITH, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

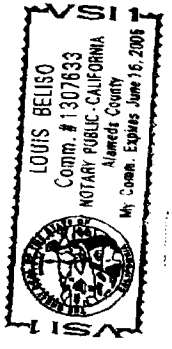
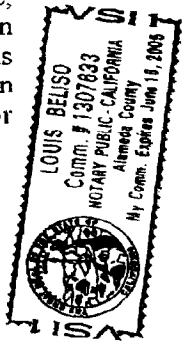
Notary Signature Louis Beliso (SEAL)

7. Inventor Signature: John GEVARGIZ

Date: \_\_\_\_\_

State of California )  
County of \_\_\_\_\_ ) ss.

On this \_\_\_\_\_ day of \_\_\_\_\_, in the year 200\_\_\_\_, before me, \_\_\_\_\_, personally appeared John GEVARGIZ, personally known to



me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature \_\_\_\_\_

(SEAL)

8. Inventor Signature: Saman Behdash  
Saman BEHTASH

Date: 7/26/01

State of California )  
County of Alameda )

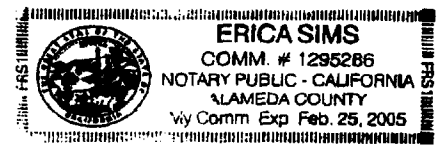
ss.

On this 26<sup>th</sup> day of July, in the year 2001, before me, Erica Sims, Notary Public, personally appeared Saman BEHTASH, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that ~~he~~/she executed the same in ~~his~~her authorized capacity(ies), and that by ~~his~~her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature Erica Sims \_\_\_\_\_

(SEAL)



**ASSIGNMENT OF PATENT APPLICATION**

(After Filing Application)

Whereas I/we the undersigned inventor(s) have invented certain new and useful improvements as set forth in the patent application entitled:

**METHOD AND APPARATUS FOR A VARIABLE BANDWIDTH MULTI-PROTOCOL X-DSL TRANSCEIVER**

(Atty. Docket No.: **VELCP010X1**) for which I (we) have executed an application for a United States Letters Patent filed on **April 13, 2001** and allocated USSN 09/837,914

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- 2) Authorize and request the Commissioner of Patents to issue any and all Letters Patents resulting from said application or any division(s), continuation(s), substitutes(s) or reissue(s) thereof to the ASSIGNEE.
- 3) Agree to execute all papers and documents and, entirely at the ASSIGNEE's expense, perform any acts which are reasonably necessary in connection with the prosecution of said application, as well as any derivative and applications thereof, foreign applications based thereon, and/or the enforcement of patents resulting from such applications.
- 4) Agree that the terms, covenants and conditions of this assignment shall inure to the benefit of the Assignee, its successors, assigns and other legal representative, and shall be binding upon the inventor(s), as well as the inventor's heirs, legal representatives and assigns.
- 5) Warrant and represent that I/we have not entered, and will not enter into any assignment, contract, or understanding that conflicts with this assignment.
- 6) Assignors hereby grant assignee or assignee's designee the right to insert the U.S. Patent Application number and filing date where space is provided above at any time subsequent to the date of the assignor's signature below.

Signed on the date(s) indicated beside my (our) signature(s).

1. **Inventor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Sam HEIDARI

State of California )

) ss.

County of \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, in the year 200\_\_, before me, \_\_\_\_\_, personally appeared Sam HEIDARI personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is

subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature \_\_\_\_\_ (SEAL)

2. Inventor Signature: Behrooz REZVANI Date: \_\_\_\_\_

State of California )  
County of \_\_\_\_\_ ) ss.

On this \_\_\_\_ day of \_\_\_\_\_, in the year 200\_\_, before me, \_\_\_\_\_, personally appeared Behrooz REZVANI, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature \_\_\_\_\_ (SEAL)

3. Inventor Signature: Raminder S. BAJWA Date: \_\_\_\_\_

State of California )  
County of \_\_\_\_\_ ) ss.

On this \_\_\_\_ day of \_\_\_\_\_, in the year 200\_\_, before me, \_\_\_\_\_, personally appeared Raminder S. BAJWA, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature \_\_\_\_\_ (SEAL)

4. Inventor Signature: Jacky CHOW Date: \_\_\_\_\_

State of California )  
County of \_\_\_\_\_ ) ss.

On this \_\_\_\_ day of \_\_\_\_\_, in the year 200\_\_, before me, \_\_\_\_\_, personally appeared Jacky CHOW, personally known to me

(or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature \_\_\_\_\_ (SEAL)

5. Inventor Signature: Avadhani SHRIDHAR Date: \_\_\_\_\_

State of California )  
County of \_\_\_\_\_ ) ss.

On this \_\_\_\_\_ day of \_\_\_\_\_, in the year 200\_\_, before me, \_\_\_\_\_, personally appeared Avadhani SHRIDHAR, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature \_\_\_\_\_ (SEAL)

6. Inventor Signature: Dale SMITH Date: \_\_\_\_\_

State of California )  
County of \_\_\_\_\_ ) ss.

On this \_\_\_\_\_ day of \_\_\_\_\_, in the year 200\_\_, before me, \_\_\_\_\_, personally appeared Dale SMITH, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature \_\_\_\_\_ (SEAL)

7. Inventor Signature: John GEVARGIZ Date: 7/30/01

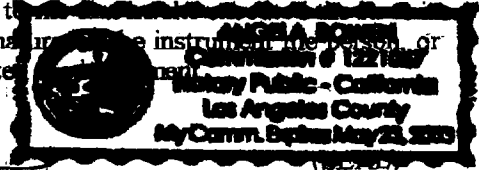
State of California )  
County of Los Angeles ) ss.

On this 30<sup>th</sup> day of July, in the year 2001, before me, Angela Bowen, personally appeared John GEVARGIZ, personally known to



me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



Notary Signature \_\_\_\_\_

8. Inventor Signature: Saman BEHTASH Date: \_\_\_\_\_

State of California )  
 County of \_\_\_\_\_ )

ss.

On this \_\_\_\_\_ day of \_\_\_\_\_, in the year 200\_\_, before me, \_\_\_\_\_, personally appeared Saman BEHTASH, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies), and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Notary Signature \_\_\_\_\_

(SEAL)