

Exhibit I: Excerpts from the Prosecution History of 5,778,178 Patent.



Attorney's Docket No.: 03106.P001

#4/A  
W Lawson  
PATENT 11/17/97

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: )  
Lakshmi Arunachalam )  
U.S. Serial No: 08/700,726 )  
Filed: August 5, 1996 )  
For: Method And Apparatus For )  
Enabling Real-time Bi-directional )  
Transactions On A Network )  
(as amended) )

Examiner: Harrell, R.

Art Unit: 2315

Assistant Commissioner For Patents  
Washington, D.C. 20231

RECEIVED  
AUG 21 1997  
PATENT & TRADEMARK OFFICE

AMENDMENT PURSUANT TO 37 C.F.R. § 1.111

Dear Sir:

In response to the Office Action mailed August 21, 1997, please enter this amendment and consider the following remarks in accordance with the provisions of 37 C.F.R. § 1.111.

IN THE TITLE:

Please replace the title with the following:

--Method and Apparatus For Enabling Real-time Bi-directional Transactions On A Network--

A

IN THE ABSTRACT:

Please replace the abstract with the following:

*AI*

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The present invention provides a method and apparatus for providing real-time, two-way transactional capabilities on the Web. Specifically, one embodiment of the present invention discloses a method for enabling object routing, the method comprising the steps of creating a virtual information store containing information entries and attributes associating each of the information entries and the attributes with an object identity, and assigning a unique network address to each of the object identities. A method is also disclosed for enabling service management of the value-added network service, to perform OAM&P functions on the services network.

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IN THE CLAIMS:

Please cancel Claims 1-11 without prejudice to the filing of continuations and divisionals.

Please amend the claims as follows:

- AI*
- 1 <sup>9</sup>~~12~~ (Amended) A method for enabling object routing on [the] a World
  - 2 Wide Web, said method for enabling object routing comprising the steps of:
  - 3 [creating a virtual information store containing information entries
  - 4 and attributes;]

5 associating an object identity with [each of said] information entries  
 6 and [said] attributes [with an object identity], wherein the object  
 7 identity represents a networked object;  
 8 storing said information entries and said attributes in a virtual  
 9 information store; and  
 10 assigning a unique network address to [each of] said object [identities]  
 11 identity.

1 14 ~~10~~ (Amended) The method in claim ~~12~~<sup>9</sup> further comprising the step of  
 2 utilizing said unique network address to identify and route said object  
 3 [identities] identity on the World Wide Web.

*A2*  
*Amend.*

1 15 ~~11~~ (Amended) The method in claim ~~12~~<sup>9</sup> further comprising the step of  
 2 utilizing said unique network address to identify and route said object  
 3 [identities] identity on the Internet.

1 10 ~~15~~ (Amended) The method in claim ~~12~~<sup>9</sup> wherein said step of  
 2 associating said object identity with [each of] said information entries and said  
 3 attributes [with said object identity] in said virtual information store further  
 4 includes the step of [storing] associating a name, a syntax and an encoding for  
 5 [each of] said object [identities] identity.

1 11 ~~10~~ (Amended) The method in claim ~~15~~<sup>10</sup> wherein said name [of]  
 2 associated with said object identity specifies an object type.

*A3*

1 16 (Amended) The method in claim ~~12~~<sup>9</sup> further comprising the step of  
 2 utilizing said unique network address of [each of] said object [identities]

3 identity to perform Operations, Administration, Maintenance & Provisioning  
4 (OAM&P) functions.

1 <sup>1</sup>  
~~20~~. (Amended) An object router on [the] a World Wide Web, said  
2 object router comprising:

3 [means for creating a virtual information store containing information  
4 entries and attributes;]

5 means for associating [each of said] an object identity with information  
6 entries and [said] attributes [with an object identity], wherein the  
7 object identity represents a networked object;

8 means for storing said information entries and said attributes in a  
9 virtual information store; and

10 means for assigning a unique network address to [each of] said object  
11 [identities] identity.

A3  
Cont.

1 <sup>6</sup>  
~~21~~. (Amended) The object router in claim <sup>1</sup>  
~~20~~ further comprising  
2 means for utilizing said unique network address to identify and route said  
3 object [identities] identity on the World Wide Web.

1 <sup>7</sup>  
~~22~~. (Amended) The [method] object router in claim <sup>1</sup>  
~~20~~ further  
2 comprising means for utilizing said unique network address to identify and  
3 route said object [identities] identity on the Internet.

1 <sup>2</sup>  
~~23~~. (Amended) The [method] object router in claim <sup>1</sup>  
~~20~~ wherein said  
2 means for associating said object identity with [each of] said information  
3 entries and said attributes [with said object identity] in said virtual  
4 information store further includes means for [storing] associating a name, a  
5 syntax and an encoding for [each of] said object [identities] identity.

1 <sup>3</sup>~~24~~. (Amended) The [method] object router in claim <sup>2</sup>~~23~~ wherein said  
2 name of said object identity specifies an object type.

1 <sup>4</sup>~~25~~. (Amended) The [method] object router in claim <sup>3</sup>~~24~~ wherein said  
2 object type and an object instance uniquely identify an instantiation of said  
3 object type.

A3  
concl.

1 <sup>5</sup>~~26~~. (Amended) The [method] object router in claim <sup>4</sup>~~25~~ wherein said  
2 syntax defines a data structure for said object type.

1 <sup>8</sup>~~27~~. (Amended) The [method] object router in claim <sup>1</sup>~~26~~ further  
2 comprising the step of utilizing said unique network address of [each of] said  
3 object [identities] identity to perform Operations, Administration,  
4 Maintenance & Provisioning (OAM&P) functions.

**REMARKS**

Applicant respectfully requests consideration of the subject application as amended herein. This Amendment is submitted in response to an Office Action dated August 21, 1997. Claims 1-27 stand rejected. In this Amendment, the title of the invention and the Abstract have been replaced, Claims 1-11 have been cancelled without prejudice to the filing of continuations and divisionals, and Claims 12-16 and 19-27 have been amended.

In the August 21, 1997 Office Action, the Examiner objected to the title of the invention as not being descriptive, and requested a new title that is clearly indicative of the invention to which the claims are directed. Claims 1-27 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Finally, the Examiner also rejected Claims 1-27 under 35 U.S.C. §103(a) as being unpatentable over Davison, Andrew (Dr. Dobbs Journal, v20, n6 June 1995 (Pages 70-79, marked as pages 1-17 of the printed out copy of the reference)).

Applicant respectfully submits that the abstract and the title of the invention have been replaced and respectfully request the Examiner to withdraw the objections to the abstract and to the title of the invention. Claims 12-16 and 19-27 have also been amended solely to more particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant therefore requests the Examiner to withdraw the 35 U.S.C. §112, second paragraph, rejections to the claims.

Applicant also respectfully submits that Claims 12-27 are patentable over Davison. Specifically, Davison does not teach or suggest a method or apparatus for enabling object routing on a World Wide Web. Davison does not teach or suggest associating an object identity with information entries and attributes wherein the object identity represents a networked object. Additionally, Davison does not teach or suggest storing the information entries and attributes in a virtual information store and assigning a unique network address to each object identity.

The Examiner contends that Davison teaches the above elements in "an HTML Web page with URL links to application programs," thus rendering the claimed invention unpatentable. Applicants respectfully submit that the object identities according to the presently claimed invention are distinctly different from an HTML page with URL links. As claimed in amended independent Claims 12 and 20, the object identity represents a

networked object where the address for each networked object essentially establishes the individual object as an "IP-reachable" or accessible node on the Internet. This Internet address is used to uniquely identify and access the object from the virtual information store.

This type of an "object" is significantly different from an HTML page that is accessed via a URL. Although an HTML page may be utilized by a user to specify the type of transaction desired (e.g. a POSvc application is essentially viewed by the user as a Web page, as described in the specification), the HTML page described in Davison is simply an entry form and does not provide any type of object routing capability, as presently claimed in independent Claims 12 and 20. Davison describes how to create a standard HTML Web page that contains HTML forms. These forms are non-interactive Web pages that do not allow a user to perform live, real-time, bi-directional transactions, with object routing, as claimed.

In contrast, according to the presently claimed invention, as described in the specification on Page 15, for example, if a Web merchant decides to offer a POSvc application that allows access to checking and savings accounts, the object identities according to the claimed invention refer to the individual checking and savings accounts, not to the POSvc application Web page. Each account is an individual network addressed object that is accessible on the Internet. Thus as claimed in Claim 12, for example, each account is an object identity associated with information entries and attributes, and the object identity represents a networked object. The object identity (the account) is associated with a unique network address, and the unique network address is utilized to identify and route the object identity on the World Wide Web. This type of an object routing system is not taught or suggested by Davison. As such Applicant respectfully submits that the claimed invention is

patentable over Davison and requests the Examiner to withdraw the rejection to the claims under 35 U.S.C. §103(a).

In conclusion, it is respectfully submitted that in view of the amendments and remarks set forth herein, that all objections and rejections have been overcome. All claims are now in condition for allowance and such action is earnestly solicited. If there are any additional charges, please charge them to our Deposit Account Number 02-2666. If a telephone conference would facilitate the prosecution of this application, the Examiner is invited to contact Jim H. Salter at (408) 720-8598.

Respectfully submitted,  
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

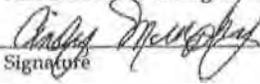
Date: 10/28, 1997

  
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12400 Wilshire Boulevard  
Seventh Floor  
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**FIRST CLASS CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231

on October 29, 1997  
Date of Deposit  
Cody Murphy  
Name of Person Mailing Correspondence  
  
Signature  
10-29-97  
Date

6 AU.2315



Attorney's Docket No.: 03106.P001 Patent  
 In re the Application of: Lakshmi Arunachalam  
 (inventor(s))  
 Application No.: 08/700,726  
 Filed: August 5, 1996  
 For: Method And Apparatus For Enabling Real-time Bi-directional Transactions On A Network (as amended)  
 (title)

ASSISTANT COMMISSIONER FOR PATENTS  
 Washington, D.C. 20231

SIR: Transmitted herewith is an Amendment for the above application.

- Small entity status of this application under 37 C.F.R. §§ 1.9 and 1.27 has been established by a verified statement previously submitted.  
 A verified statement to establish small entity status under 37 C.F.R. §§ 1.9 and 1.27 is enclosed.  
 No additional fee is required.

The fee has been calculated as shown below:

	(Col. 1)		(Col. 2)		(Col. 3)	SMALL ENTITY		OTHER THAN A SMALL ENTITY	
	Claims Remaining After Amd.		Highest No. Previously Paid For		Present Extra	Rate	Additional Fee	Rate	Additional Fee
Total Claims	14	Minus	27		0	x11	\$	x22	\$
Indep. Claims	2	Minus	5		0	x41	\$	x62	\$
<b>First Presentation of Multiple Dependent Claim(s)</b>						+135	\$	+270	\$
						Total Add. Fee	\$	Total Add. Fee	\$0

- \* If the entry in Col. 1 is less than the entry in Col. 2, write "0" in Col. 3.
- \*\* If the "High est No. Previously Paid For" IN THIS SPACE is less than 20, write "20" in this space.
- \*\*\* If the "Highest No. Previously Paid For" IN THIS SPACE is less than 3, write "3" in this space. The "Highest No. Previously Paid For" (Total or Independent) is the high est number found from the equivalent box in Col. 1 of a prior amendment or the number of claims originally filed.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231

on October 29, 1997  
 Date of Deposit

Cindy Murphy  
 Name of Person Mailing Correspondence  
Cindy Murphy 10-29-97  
 Signature Date

A check in the amount of \$ \_\_\_\_\_ is attached for presentation of additional claim(s).  
 Applicant(s) hereby Petition(s) for an Extension of Time of \_\_\_\_\_ month(s) pursuant to 37 C.F.R. § 1.136(a).  
 A check for \$ \_\_\_\_\_ is attached for processing fees under 37 C.F.R. § 1.17.  
 Please charge my Deposit Account No. ~~02-2666~~ the amount of \$ \_\_\_\_\_.  
**A duplicate copy of this sheet is enclosed.**  
 The Commissioner of Patents and Trademarks is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. ~~02-2666~~ (a duplicate copy of this sheet is enclosed):  
 Any additional filing fees required under 37 C.F.R. § 1.16 for presentation of extra claims.  
 Any extension or petition fees under 37 C.F.R. § 1.17.

BLAKELY SOKOLOFF-TAYLOR & ZAFMAN LLP

Date: 10/28/97

12400 Wilshire Boulevard  
Seventh Floor  
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 \_\_\_\_\_  
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08/700,726  
 UNITED STATES DEPARTMENT OF COMMERCE  
 Patent and Trademark Office  
 Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
 Washington, D.C. 20231

08/700726

08/700,726	08/05/95	ARUNACHALAM	L	002435.P001
SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT		ATTORNEY DOCKET NO.

LM21/0120  
 BLAKELY SOKOLOFF TAYLOR & ZAFMAN  
 12400 WILSHIRE BOULEVARD  
 SEVENTH FLOOR  
 LOS ANGELES CA 90025

HARRELL, R  
 EXAMINER

2784  
 ART UNIT PAPER NUMBER 5  
 01/20/98

DATE MAILED:

NOTICE OF ALLOWABILITY

PART I.

1.  This communication is responsive to *the applicant's amendments and remarks filed 11/31/97*
2.  All the claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice Of Allowance And Issue Fee Due or other appropriate communication will be sent in due course.
3.  The allowed claims are 12-27
4.  The drawings filed on \_\_\_\_\_ are acceptable.
5.  Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has  been received.  not been received.  been filed in parent application Serial No. \_\_\_\_\_, filed on \_\_\_\_\_.
6.  Note the attached Examiner's Amendment.
7.  Note the attached Examiner Interview Summary Record, PTO-413.
8.  Note the attached Examiner's Statement of Reasons for Allowance
9.  Note the attached NOTICE OF REFERENCES CITED, PTO-892.
10.  Note the attached INFORMATION DISCLOSURE CITATION, PTO-1449.

PART II.

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" indicated on this form. Failure to timely comply will result in the ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.138(a).

1.  Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
2.  APPLICANT MUST MAKE THE DRAWING CHANGES INDICATED BELOW IN THE MANNER SET FORTH ON THE REVERSE SIDE OF THIS PAPER.
  - a.  Drawing formalities are indicated on the NOTICE RE PATENT DRAWINGS, PTO-948, attached hereto or to Paper No. 3. CORRECTION IS REQUIRED.
  - b.  The proposed drawing correction filed on \_\_\_\_\_ has been approved by the examiner. CORRECTION IS REQUIRED.
  - c.  Approved drawing corrections are described by the examiner in the attached EXAMINER'S AMENDMENT. CORRECTION IS REQUIRED.
  - d.  Formal drawings are now REQUIRED.

Any response to this letter should include in the upper right hand corner, the following information from the NOTICE OF ALLOWANCE AND ISSUE FEE DUE: ISSUE BATCH NUMBER, DATE OF THE NOTICE OF ALLOWANCE, AND SERIAL NUMBER.

Attachments:

- Examiner's Amendment
- Examiner Interview Summary Record, PTO-413
- Reasons for Allowance
- Notice of References Cited, PTO-892
- Information Disclosure Citation, PTO-1449
- Notice of Informal Application, PTO-152
- Notice of Patent Drawings, PTO-948
- Listing of Bonded Draftsmen
- Other

ROBERT B. HARRELL  
 PRIMARY EXAMINER



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

**NOTICE OF ALLOWANCE AND ISSUE FEE DUE**

CLASS NO. 37  
HEARSTY BROOKLIFE TAYLOR & ZAFENAM  
13400 BILSHIRE BOULEVARD  
SEVENTH FLOOR  
LOS ANGELES, CA 90025

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
097799 7/26	03/05/98	016	HARRELL, R	3/25/98 01/20/98
First Named Applicant	APURBAJAN, LABSHRI			

TITLE OF INVENTION: METHOD AND APPARATUS FOR ENABLING REAL-TIME BI-DIRECTIONAL TRANSACTIONS ON A NETWORK (AS AMENDED)

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPL. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
2	002435.P001	375-200.030	N51 UTILITY	YES	\$660.00	04/20/98

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.**

**THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.**

**HOW TO RESPOND TO THIS NOTICE:**

i. Review the SMALL ENTITY status shown above. If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

ii. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.

iii. All communications regarding this application must give application number and batch number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**