AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Eastern District of Texas - Marshall Div on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
16cv741	7/8/2016	Eastern District of Texas - Marshall Div

PLAINTIFF	DEFENDANT
Uniloc USA Inc	ADP LLC

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,324,578		
2	7,069,293		
3	6,510,466		
4	6,728,766		
5			

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

AO 120 (Rev. 08/10)

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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Eastern District of Texas - Marshall Div on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
16cv743	7/8/2016	Eastern District of Texas - Marshall Div

PLAINTIFF	DEFENDANT
UNLOC USA Inc	Concur Tech., Inc

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,324,578		
2	7,069,293		
3	6,510,466		
4	6,728,766		
5			

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
16cv744	7/8/2016	Eastern District of Texas - Marshall Div.

PLAINTIFF	DEFENDANT
UNILOC USA INc	Salesforce Com, Inc

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,324,578		
2	7,069,293		
3	6,510,466		
4	6,728,766		
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
16cv745	7/8/2016	Eastern District of Texas - Marshall Div.

PLAINTIFF	DEFENDANT
UNILOC USA, Inc	UBISOFT, Inc

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,324,578		
2	7,069,293		
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☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
16cv746	7/8/2016	Eastern District of Texas - Marshall Div.

PLAINTIFF	DEFENDANT
UNILOC USA	VALVE Corp.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,324,578		
2	7,069,293		
3			
4			
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

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Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

BIBDATASHEET

Bib Data Sheet

CONFIRMATION NO. 9481

SERIAL NUMBER	FILING OR 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
09/870,608	05/31/2001 RULE	709	2141	5577-130DV

APPLICANTS

David E. Cox, Raleigh, NC;
Kent F. Hayes JR., Chapel Hill, NC;
David B. Lindquist, Raleigh, NC;
John R. McGarvey, Apex, NC;
Abdi Salahshour, Raleigh, NC;

**** CONTINUING DATA ***************************

This application is a DIV of 09/211,528 12/14/1998 PAT 6,510,466 * (*)Data provided by applicant is not consistent with PTO records.

**** FOREIGN APPLICATIONS *********************

IF REQUIRED, FOREIGN FILING LICENSE GRANTED
** 06/15/2001

Foreign Priority claimed	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ yes ☐ no	NC	9	15	3

35 USC 119 (a-d) conditions met ☐ yes ☐ no ☐ Met after Allowance

Verified and Acknowledged _____ Examiner's Signature Initials

ADDRESS
25259

TITLE
METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

FILING FEE RECEIVED	FEES: Authority has been given in Paper	
1060	No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

20792 7590 02/23/2006

MYERS BIGEL SIBLEY & SAJOVEC
PO BOX 37428
RALEIGH, NC 27627

05/11/2006 MBIZUNE2 00000105 090461 09870608

01 FC:1501 1400.00 DA
02 FC:1504 300.00 DA

OIPE IAP68 MAY 10 2006 PATENT & TRADEMARK OFFICE

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,608	05/31/2001	David E. Cox	5577-130DV	9481

TITLE OF INVENTION: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1400	$300	$1700	05/23/2006

EXAMINER	ART UNIT	CLASS-SUBCLASS
BAYARD, DJENANE M	2141	709-203000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Myers Bigel Sibley
2 & Sajovec
3 Stephen A. Calogero

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

International Business Machines Corporation Armonk, NY

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:

☒ Issue Fee
☒ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s):

☐ A check in the amount of the fee(s) is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☒ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number 09-0461 (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☒ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above. NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date 3/27/2006

Typed or printed name Robert W. Glatz Registration No. 36,811

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Attorney Docket No. 5577-130DV PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Cox et al.
Application Serial No.: 09/870,608
Filed: May 31, 2001
For: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

Examiner: Djenane M. Bayard
Group Art Unit: 2141
Confirmation No.: 9481

Date: March 27, 2006

Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CHANGE OF CORRESPONDENCE ADDRESS

Sir:

The address of the correspondence attorney in the above-referenced case has changed to:

USPTO Customer No. 25259
International Business Machines Corporation
Dept. T81/Bldg. 503
PO Box 12195
Research Triangle Park, NC 27709

Please address all correspondence to the above address.

Respectfully submitted,

Robert W. Glatz
Registration No. 36,811

USPTO Customer No. 20792
Myers Bigel Sibley & Sajovec, P.A.
Post Office Box 37428
Raleigh, North Carolina 27627
Telephone: 919/854-1400
Facsimile: 919/854-1401

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Attorney Docket Number 5577-130DV	Serial No. To Be Assigned
LIST OF DOCUMENTS CITED BY APPLICANT (Use several sheets if necessary)	Applicant Cox, et al.	
	Filing Date Concurrently Herewith	Group Unknown

U. S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
D.B.	1	6,105,066	8/2000	Hayes, Jr.	709	226	
D.B.	2	6,108,712	8/2000	Hayes, Jr.	709	246	
D.B.	3	6,105,069	8/2000	Franklin et al.	709	229	
	4	5,745,879	4/98	Wyman	705	1	
	5	6,175,363	1/01	Williams et al.	345	334	
	6	5,848,243	12/98	Kulkarni et al	709	224	
	7	5,911,066	6/99	Williams et al.	709	300	
	8	6,175,832	1/01	Luzzi et al.	707	10	
	9	5,680,615	10/97	Marlin et al.	707	103	
	10	5,875,327	2/99	Brandt et al.	713	1	
	11	6,070,190	5/00	Reps et al.	709	224	
	12	6,105,063	8/00	Hayes, Jr.	709	223	
KRH 5-10-06	13	5,440,739	8/95	Beck et al.	709	221	
	14	5,748,896	5/5/98	Daly et al.	709	223	
	15	5,881,236	3/9/99	Dickey	709	221	
	16	5,845,077	12/1/98	Fawcett	709	221	
	17	5,778,368	7/7/98	Hogan et al.	707	10	
	18	5,263,165	11/93	Janis	395	725	
KRH 5-10-06	19	5,689,708	11/97	Regnier et al.	709	302	
	20	5,764,887	6/98	Kells et al.	713	200	
	21	5,771,354	11/93	Crawford	709	229	
D.B.	22	5,813,009	7/95	Johnson et al.	707	100	
D.B.	23	5,554,979	9/10/96	Kobar et al.	340	825.72	
D.B.	24	6,192,414	2/20/01	Horn	709	239	

FOREIGN PATENT DOCUMENTS

		Document	Date	Country	Class	Subclass	Translation

EXAMINER _____ DATE CONSIDERED

*EXAMINER Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

20792 7590 02/23/2006

MYERS BIGEL SIBLEY & SAJOVEC
PO BOX 37428
RALEIGH, NC 27627

EXAMINER	
BAYARD, DJENANE M	
ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 02/23/2006

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,608	05/31/2001	David E. Cox	5577-130DV	9481

TITLE OF INVENTION: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1400	$300	$1700	05/23/2006

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) 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. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY 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 the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop 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.

PTOL-85 (Rev. 01/06) Approved for use through 04/30/2007.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

20792 7590 02/23/2006

MYERS BIGEL SIBLEY & SAJOVEC
PO BOX 37428
RALEIGH, NC 27627

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Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,608	05/31/2001	David E. Cox	5577-130DV	9481

TITLE OF INVENTION: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1400	$300	$1700	05/23/2006

EXAMINER	ART UNIT	CLASS-SUBCLASS
BAYARD, DJENANE M	2141	709-203000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:
☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s):
☐ A check in the amount of the fee(s) is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above. NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,608	05/31/2001	David E. Cox	5577-130DV	9481

20792 7590 02/23/2006

MYERS BIGEL SIBLEY & SAJOVEC
PO BOX 37428
RALEIGH, NC 27627

EXAMINER	
BAYARD, DJENANE M	
ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 02/23/2006

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 782 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 782 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 01/06) Approved for use through 04/30/2007.

Notice of Allowability	Application No.	Applicant(s)	
	09/870,608	COX ET AL.	
	Examiner	Art Unit	
	Djenane M. Bayard	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All 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 (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *11/09/05*.

2. ☒ The allowed claim(s) is/are *15-20, 22, 24-37*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER

Allowable Subject Matter

1. Claims 15-20, 22, 24-37 are allowed.

2. The following is an examiner's statement of reasons for allowance: Providing an application program to be distributed to the network management server in combination with preparing a file packet associated with the application program and including a segment configured to initiate registration operations for the application program at the target on-demand server.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djenane M. Bayard whose telephone number is (571) 272-3878. The examiner can normally be reached on Monday- Friday 5:30 AM- 3:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Djenane Bayard

Patent Examiner

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER

Issue Classification	Application/Control No.	Applicant(s)/Patent under Reexamination	
	09/870,608	COX ET AL.	
	Examiner	Art Unit	
	Djenane M. Bayard	2141	

ISSUE CLASSIFICATION

ORIGINAL CLASS	ORIGINAL SUBCLASS	CROSS REFERENCE(S) CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)						
709	203	709	228	218	219				
INTERNATIONAL CLASSIFICATION		717	171	172					
g 0 6 f	15/16								
g 0 6 f	9/44								
g 0 6 f	9/445								
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	/								

Djenane Bayard 2/16/06
(Assistant Examiner) (Date)

Thomas Black 2/21/06
(Legal Instruments Examiner) (Date)

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER
2/21/06
(Primary Examiner) (Date)

Total Claims Allowed: 21

O.G. Print Claim(s)	O.G. Print Fig.
15	1

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
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	2	8	32		62		92		122		152		182
	3	9	33		63		93		123		153		183
	4	10	34		64		94		124		154		184
	5	11	35		65		95		125		155		185
	6	4	36		66		96		126		156		186
	7	5	37		67		97		127		157		187
	8		38		68		98		128		158		188
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19	29		59		89		119		149		179		209
20	30		60		90		120		150		180		210

Index of Claims

Application/Control No.	Applicant(s)/Patent under Reexamination
09/870,608	COX ET AL.
Examiner	**Art Unit**
Djenane M. Bayard	2141

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
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Claim		Date								
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Search Notes

Application/Control No.	Applicant(s)/Patent under Reexamination	
09/870,608	COX ET AL.	
Examiner	**Art Unit**	
Djenane M. Bayard	2141	

SEARCHED			
Class	Subclass	Date	Examiner
709	228	2/14/2006	DB
709	219	2/14/2006	DB
709	203	2/14/2006	DB
709	218	2/14/2006	DB
717	172	2/14/2006	DB
717	171	2/14/2006	DB

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner
709	**228/219**	2/14/2006	**DB**
709	203/218	2/14/2006	DB
717	171/172	2/14/2006	DB

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
east	2/14/2006	DB
google scholar, IEEE	2/14/2006	DB
Consulted with Le Luu	2/6/2006	DB
Consulted with Z. Maung	2/7/2006	db
inventor's search	2/7/2006	db

Sheet 1 of 1

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office LIST OF DOCUMENTS CITED BY APPLICANT (Use several sheets if necessary)	Attorney Docket Number 5577-130DV	Serial No. 09/870,608
	Applicants: Cox et al.	
	Filing Date: May 31, 2001	Group 2155

OIPE JC54 DEC 04 2001 PATENT & TRADEMARK OFFICE

U. S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
D.B.	1	5,708,709	1/13/98	Rose	380	4	
D.B.	2	6,182,142	1/30/01	Win et al.	709	229	

Dzenana Bayard 8/23/04

RECEIVED DEC 10 2001 Technology Center 2100

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation Yes | No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

218216

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FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Attorney Docket Number 5577-130DV	Serial No. To Be Assigned
LIST OF DOCUMENTS CITED BY APPLICANT (Use several sheets if necessary)	Applicant Cox, et al.	
	Filing Date Concurrently Herewith	Group Unknown

U. S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
D.B.	1	6,105,066	8/2000	Hayes, Jr.	709	226	
D.B.	2	6,108,712	8/2000	Hayes, Jr.	709	246	
D.B.	3	6,105,069	8/2000	Franklin et al.	709	229	
	4	5,745,879	4/98	Wyman	705	1	
	5	6,175,363	1/01	Williams et al.	345	334	
	6	5,848,243	12/98	Kulkarni et al	709	224	
	7	5,911,066	6/99	Williams et al.	709	300	
	8	6,175,832	1/01	Luzzi et al.	707	10	
	9	5,680,615	10/97	Marlin et al.	707	103	
	10	5,875,327	2/99	Brandt et al.	713	1	
	11	6,070,190	5/00	Reps et al.	709	224	
	12	6,105,063	8/00	Hayes, Jr.	709	223	
	13	5,440,739	8/95	Beck et al.	70-	221	
	14	5,748,896	5/5/98	Daly et al.	709	223	
	15	5,881,236	3/9/99	Dickey	709	221	
	16	5,845,077	12/1/98	Fawcett	709	221	
	17	5,778,368	7/7/98	Hogan et al.	707	10	
	18	5,263,165	11/93	Janis	395	725	
	19	5,689,709	11/97	Regnier et al.	709	302	
	20	5,764,887	6/98	Kells et al.	713	200	
	21	5,771,354	11/93	Crawford	709	229	
D.B.	22	5,813,009	7/95	Johnson et al.	707	100	
D.B.	23	5,554,979	9/10/96	Kohar et al.	340	825.72	
D.B.	24	6,192,414	2/20/01	Horn	709	239	

FOREIGN PATENT DOCUMENTS

		Document	Date	Country	Class	Subclass	Translation

EXAMINER _____ DATE CONSIDERED

*EXAMINER Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Attorney Docket Number 5577-130DV	Serial No. To Be Assigned
LIST OF DOCUMENTS CITED BY APPLICANT (Use several sheets if necessary)	Applicant Cox, et al.	
	Filing Date Concurrently Herewith	Group Unknown

		Number					Yes | No
D.B.	25	9850853	11/12/98	PCT	G06F	9/44	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

D.B.	26	"A Common Desktop Environment for Platforms Based on the UNIX Operating System," By B.E. Cripe, J.A. Brewster, and D.E. Laursen, Hewlett-Packard Journal, Vol. 47, No. 2, April 1, 1996, pp. 6-14
D.B.	27	"Administration of Graphic User Interface and Multimedia Objects Using Cooperating Processing," IBM Technical Disclosure Bulletin, Vol. 37, No. 9, September 1, 1994, pp. 675-678
D. B.	28	http://nf/pdc97/profiles_and_policies.htm "Guide to Microsoft Windows NT 4.0 Profiles and Policies" Pages 1-76
D. B.	29	http://www/ietf.org/html.charters/acap-charter.html "Application Configuration Access Protocol (acap)," 68 pages
D. B.	30	IBM Network Station Manager for Windows NT Server 4.0, Chapter 5. Using the IBM Network Station Manager, Pages 5-1 to 5-15
D. B.	31	http://www.software.ibm.com/os/warp/library/sq202822.htm, "WorkSpace on-Demand Handbook," Chapters 2.3.1; 6.2; 6.3; 6.3.1; 6.3.3; 6.5
D. B.	32	http://www.triteal.com/SoftNC, Java Desktop Environment from Triteal," pages 1-2
D. B.	33	http://java.sun.com/products/hot-javaviews/admin.html, "HotJava Views," pages 1-24
D. B.	34	http://esuite.lotus.com/eSuite/eSuite. "The Right Work Environment for Network Centric Computing," 24 pages

EXAMINER Phuoc Nguyen DATE CONSIDERED 8/23/04

*EXAMINER Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1506353	(includ$3 or add$5 or attach$3) near3 (segment or portion or part)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/18 09:41
L2	851	((client with regist$6) or (client with authenticat$3) or (client with login$3)) same ((software with download$3) or (software with updat$3) or (software with upload$3) or (data with transferr$3))	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/18 09:42
L3	348	l1 and l2	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/18 09:42
L4	54	l3 and (709/203.ccls. or 709/219. ccls. or 709/228.ccls. or 709/218. ccls.)	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/18 09:49
L5	0	l3 and (717/717.ccls. or 717/172)	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/18 09:48
L6	2	l2 and (717/717.ccls. or 717/172)	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/18 09:51
L7	526	server with distribut$3 with regist$6 with (application or software or data or information or file) with (user or client)	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/18 09:49
L8	79	l7 and (709/203.ccls. or 709/219. ccls. or 709/228.ccls. or 709/218. ccls.)	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/18 09:49
L9	3	l7 and (717/717.ccls. or 717/172)	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/18 09:51
S1	287	(software with distribution).ab.	US-PGPUB; USPAT	OR	ON	2005/09/08 07:04
S2	361	(source with directory) and (target with directory)	US-PGPUB; USPAT	OR	ON	2004/08/25 08:03
S3	62	tivoli with server	US-PGPUB; USPAT	OR	ON	2004/08/25 08:03
S4	165	(application with network with distribution) and (java with applet)	US-PGPUB; USPAT	OR	ON	2004/08/25 08:04
S5	57	(java with applet with url) and (software with distribution)	US-PGPUB; USPAT	OR	ON	2004/08/25 08:04
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EAST Search History

S7	1	("20020186705").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:51
S8	1	("20040083299").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:51
S9	1	("6430233").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:52
S10	1	("6101616").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:52
S11	1	("6424650").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:39
S12	1	("6202206").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:42
S13	1	("5867713").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:42
S14	23	("5867713").URPN.	USPAT	OR	ON	2005/03/18 16:44
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S16	1	("6510466").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:46
S17	6	("6510466").URPN.	USPAT	OR	ON	2005/03/18 16:47
S18	1	"20020032763".pn. and (target with demand)	US-PGPUB; USPAT	OR	ON	2005/03/18 16:49
S19	6	("6510466").URPN.	USPAT	OR	ON	2005/03/18 17:13
S20	36	("5263165" | "5440739" | "5554979" | "5634010" | "5655081" | "5680615" | "5689709" | "5708709" | "5745879" | "5748896" | "5764887" | "5771354" | "5778368" | "5809251" | "5813009" | "5845077" | "5848243" | "5875327" | "5881236" | "5911066" | "5933601" | "6070190" | "6098067" | "6105063" | "6105066" | "6105069" | "6108712" | "6115040" | "6158010" | "6175363" | "6175832" | "6182142" | "6189051" | "6192414" | "6195432" | "6202206").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:14
S21	78	("5845077").URPN.	USPAT	OR	ON	2005/03/18 17:28

EAST Search History

S22	42	("5204897" | "5260999" | "5263165" | "5440739" | "5554979" | "5634010" | "5655081" | "5671412" | "5680615" | "5689708" | "5708709" | "5745879" | "5748896" | "5752041" | "5764887" | "5771354" | "5778368" | "5809251" | "5813009" | "5845065" | "5845077" | "5848243" | "5875327" | "5881236" | "5911066" | "5933601" | "6021438" | "6070190" | "6098067" | "6105063" | "6105066" | "6105069" | "6108712" | "6115040" | "6158010" | "6175363" | "6175832" | "6182142" | "6189051" | "6192414" | "6195432" | "6202206").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:35
S23	0	("6728766").URPN.	USPAT	OR	ON	2005/03/18 17:37
S24	38	("4885770" | "5263165" | "5440739" | "5554979" | "5634010" | "5655081" | "5680615" | "5689708" | "5745879" | "5748896" | "5764887" | "5771354" | "5778368" | "5809251" | "5813009" | "5845077" | "5848243" | "5875327" | "5881236" | "5889942" | "5905492" | "5911066" | "5933601" | "6003083" | "6023273" | "6070190" | "6098067" | "6105063" | "6105066" | "6105069" | "6108712" | "6115040" | "6158010" | "6175363" | "6175832" | "6189051" | "6192414" | "6195432").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:47
S26	220	((client with regist$6) or (client with authenticat$3) or (client with login$3)) same ((software with download$3) or (software with updat$3) or (software with upload$3) or (data with transferr$3))and "709"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:51

EAST Search History

S27	556	((client with regist$6) or (client with authenticat$3) or (client with login$3)) same ((software with download$3) or (software with updat$3) or (software with upload$3) or (software with distribut$3))	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:51
S28	220	((client near2 regist$6) or (client near2 authenticat$3) or (client near2 login$3)) same ((software with download$3) or (software with updat$3) or (software with upload$3) or (software with distribut$3))	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:52
S29	88	((client near2 regist$6) or (client near2 authenticat$3) or (client near2 login$3)) same ((software near2 download$3) or (software near2 updat$3) or (software near2 upload$3) or (software near2 distribut$3))	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:55
S30	1	"20020032763".pn. and registration	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 20:42
S31	1013	(regist$6 with application with distribut$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 18:01
S32	1335694	(regist$6 with application with programwith distribut$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 18:01
S33	87	(regist$6 with application with program with distribut$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 18:01
S34	1	"20020032763".pn. and (file with packet)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 20:51
S35	322	(file adj packet)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:05
S36	3	(file adj packet) same application same regist$6	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 20:52
S37	68	(file adj packet) same application	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 20:58
S38	158	(segment with initiat$3 with regist$6)	US-PGPUB; USPAT	OR	ON	2005/03/18 21:03

EAST Search History

S39	4	(file adj packet)with regist$6	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:08
S40	1386	server with distribut$3 with regist$6	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:08
S41	934	server with distribut$3 with regist$6 with (application or software or data or information)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:09
S42	982	server with distribut$3 with regist$6 with (application or software or data or information or file)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:10
S43	0	server with distribut$3 with regist$6 with (application or software or data or information or file) with packet with segment	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:10
S44	255	server with distribut$3 with regist$6 with (application or software or data or information or file) and "709"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:11
S46	128	server with distribut$3 with regist$6 with (application or software or data or information or file) with (user or client) with network	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:12
S47	1	(shared adj directory) with (application with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:46
S48	2	(shared with directory) with (application with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:47
S49	3	(shar$3 with directory) with (application with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:47
S50	2041	(application with test$3).ab.	US-PGPUB; USPAT	OR	ON	2005/03/19 10:48
S51	11	(application with test$3).ab. and (interoperability with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:52
S52	140	(interoperability with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:52
S53	4	(interoperability with test$3)and ((directory with shar$3) or (area with shar$3))	US-PGPUB; USPAT	OR	ON	2005/03/19 10:59
S54	1	("6401135").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/19 11:02
S55	1	("6260065").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/19 11:03

EAST Search History

S56	1	("6253368").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/19 11:03
S57	4	("6253368").URPN.	USPAT	OR	ON	2005/03/19 11:19
S58	0	("6401135").URPN.	USPAT	OR	ON	2005/03/19 11:20
S59	8	("4617663" | "5218605" | "5390325" | "5481721" | "5485617" | "5615333" | "5715373" | "5751941").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/19 11:37
S60	140	interoperability with test$3	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/19 11:37
S61	946	(software with distribut$3).ab.	US-PGPUB; USPAT	OR	ON	2005/03/31 14:49
S62	7	(software with distribut$3 with regist$4).ab.	US-PGPUB; USPAT	OR	ON	2005/03/31 14:50
S63	7	"6510466"	US-PGPUB; USPAT	OR	ON	2005/03/31 15:43
S64	6	("6510466").URPN.	USPAT	OR	ON	2005/03/31 15:09
S65	36	("5263165" | "5440739" | "5554979" | "5634010" | "5655081" | "5680615" | "5689709" | "5708709" | "5745879" | "5748896" | "5764887" | "5771354" | "5778368" | "5809251" | "5813009" | "5845077" | "5848243" | "5875327" | "5881236" | "5911066" | "5933601" | "6070190" | "6098067" | "6105063" | "6105066" | "6105069" | "6108712" | "6115040" | "6158010" | "6175363" | "6175832" | "6182142" | "6189051" | "6192414" | "6195432" | "6202206").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:13
S66	264	(software adj2 distribut$3) same (regist$3 or logging or authenticat$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:15
S67	0	(software adj2 distribut$3) same (regist$3 or logging or authenticat$3) <= "19991118"	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:15
S68	0	(software adj2 distribut$3) same (regist$3 or logging or authenticat$3)and @pd<= "19991118"	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:15

EAST Search History

S69	264	(software adj2 distribut$3) same (regist$3 or logging or authenticat$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:32
S70	1	("5825877").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/31 15:32
S71	62	("6049671").URPN.	USPAT	OR	ON	2005/03/31 15:33
S72	0	"6202206".pn. and (logging or regist$4 or authenticat$3)	US-PGPUB; USPAT	OR	ON	2005/03/31 15:49
S73	21	(segment with initiat$3 with registration)	US-PGPUB; USPAT	OR	ON	2005/03/31 15:49
S74	40	(logging with software with download$3)	US-PGPUB; USPAT	OR	ON	2005/03/31 16:05
S75	4693	(data or software or information or application) with (distribut$3 or transfer$4) with (logging or authenticat$3)	US-PGPUB; USPAT	OR	ON	2005/03/31 16:06
S76	836	(data or software or information or application) with (distribut$3 or transfer$4) with (logging or authenticat$3) and "709"/$3.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S77	836	(data or software or information or application) with (distribut$3 or transfer$4) with (logging or authenticat$3) and "709"/$.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S78	447	(data or software or information or application) with (distribut$3) with (logging or authenticat$3) and "709"/$.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S79	339	(software or information or application) with (distribut$3) with (logging or authenticat$3) and "709"/$.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S80	189	(software or application) with (distribut$3) with (logging or authenticat$3) and "709"/$.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S81	1	("2003/0110241").URPN.	USPAT	OR	ON	2005/03/31 16:10
S82	18	("20020152290" | "20030110248" | "5396613" | "5630116" | "5634008" | "5696486" | "5919247" | "5933647" | "5987497" | "6031533" | "6035423" | "6110228" | "6389426" | "6526447" | "6581092" | "6591296" | "6604237" | "6704782").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 16:14

EAST Search History

S83	1	"20030110241".pn. and (authenticat$3 or logging or regist$4)	US-PGPUB; USPAT	OR	ON	2005/03/31 16:44
S84	2	("20020032763").PN.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/09/08 07:40
S85	10	(packet with segment with regist$6 with (begin$3 or start$3 or initiat$3))	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2005/09/08 07:44
S86	10	(packet with segment with regist$6 with (begin$3 or start$3 or initiat$3))	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/14 09:41
S87	249	(packet with (segment or section or header or portion or byte) with regist$6 with (begin$3 or start$3 or initiat$3))	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2005/09/08 07:49
S88	40	(packet with (segment or section or header or portion or byte) with regist$6 with (begin$3 or start$3 or initiat$3)) and "709"/$.ccls.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 09:17
S89	69	(segment or byte or header) with (initializ$3 or initiat$3) with (registration)	US-PGPUB; USPAT	OR	ON	2005/09/09 06:04
S90	2	("20040019697").PN.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/09/09 09:55
S91	2	("20030028661").PN.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/09/09 09:56
S92	2	("20030035067").PN.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/09/09 09:57
S93	2	("20030069973").PN.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/09/09 09:57
S94	24	((initat$3 or start$3 or begin$4) near2 (register$3 or registration) near3 (program or application or software)) with (segment or section)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 09:57

EAST Search History

S95	2	("6510466").PN.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2006/02/02 10:00
S96	106422	(software or application or program) near2 (download$3 or distribut$3 or import$3)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 10:03
S97	781	S96 and ((registration or register) with segment)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 10:04
S98	59	S97 and "709"/$.ccls.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 10:04
S99	13	("6510466").URPN.	USPAT	OR	ON	2006/02/02 10:13
S100	36	("5263165" | "5440739" | "5554979" | "5634010" | "5655081" | "5680615" | "5689709" | "5708709" | "5745879" | "5748896" | "5764887" | "5771354" | "5778368" | "5809251" | "5813009" | "5845077" | "5848243" | "5875327" | "5881236" | "5911066" | "5933601" | "6070190" | "6098067" | "6105063" | "6105066" | "6105069" | "6108712" | "6115040" | "6158010" | "6175363" | "6175832" | "6182142" | "6189051" | "6192414" | "6195432" | "6202206").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/02 10:15
S101	1	"20020032763".pn. and (registration or register$3)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 10:45
S102	3273	S96 and ((registration or register$3) near3 (initiat$3 or begin$4 or start$3 or prompt$3))	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 10:54
S103	600	S102 and ("709"/$.ccls. or "395"/$.ccls. or "717"/$.ccls.)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 10:57

EAST Search History

S104	489	S102 and ("709"/$.ccls.)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 10:55
S105	0	S102 and ("709"/$.ccls. or "395"/$.ccls. or "717"/$.ccls.) and "19981012.prd"	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 10:57
S106	0	S102 and ("709"/$.ccls. or "395"/$.ccls. or "717"/$.ccls.) and "19981012.prd."	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 10:57
S107	0	S102 and "19981012.prd."	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 10:58
S108	493	S102 and @pd<"19981012"	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 10:59
S109	73	S102 and @pd<"20001012" and "709"/$.ccls.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 11:36
S110	1006	((register$3 or registration or authenticat$3 or password) near3 (on-demand or server or host)) with (download or distribut$3 or transfer$4) with (application or software or program)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 11:38
S111	180	S110 and "709"/$.ccls.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/02 11:39
S113	0	(packet with segment with regist$6 with (begin$3 or start$3 or initiat$3)) and "717"/$.ccls.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/14 09:41
S114	3033	(includ$3 or add$5 or attach$3) near3 (segment or portion or part) and "717"/$.ccls.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/14 09:45
S115	625	(includ$3 or add$5 or attach$3) near3 (segment) and "717"/$.ccls.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/14 09:45

EAST Search History

S116	112055	(includ$3 or add$5 or attach$3) near3 (segment)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/14 09:46
S117	2837	S116 with (initiat$3 or regist$5)	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/14 09:48
S118	56	S117 and "717"/$.ccls.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/02/14 09:48

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1 Fw

Attorney Docket No. 5577-130DV

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Cox et al.
Application Serial No.: 09/870,608
Filed: May 31, 2001
For: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

Examiner: Djenane M. Bayard
Group Art Unit: 2141
Confirmation No.: 9481

November 7, 2005

Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Certificate of Mailing under 37 CFR 1.8
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on November 7, 2005

Carey Gregory

AMENDMENT

Sir:

Applicants provide the present Amendment to address the issues raised in the Office Action mailed September 22, 2005 ("the Office Action").

If any extension of time for the accompanying response or submission is required, Applicants request that this be considered a petition therefor. The Commissioner is hereby authorized to charge any additional fee, which may be required, or credit any refund, to Deposit Account No. 09-0461.

A **Listing of the Claims** is provided for the Examiner's convenience beginning on page 2 of this paper.

Remarks begin on page 7 of this paper.

Listing of the Claims:

1-14. (Canceled)

15. (Previously presented) A method for distribution of application programs to a target on-demand server on a network comprising the following executed on a centralized network management server coupled to the network:

providing an application program to be distributed to the network management server;

specifying a source directory and a target directory for distribution of the application program;

preparing a file packet associated with the application program and including a segment configured to initiate registration operations for the application program at the target on-demand server; and

distributing the file packet to the target on-demand server to make the application program available for use by a user at a client.

16. (Original) A method according to Claim 15 wherein the network management server is a Tivoli™ server.

17. (Previously presented) A method according to Claim 15 wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target on-demand server to install and register the file packet associated with the application program on the target on-demand server in a manner that makes it recognized and available to the user at the client.

18. (Previously presented) A method according to Claim 15 where the application program is provided as a JAVA™ applet and wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field

into which the target on-demand server inserts its identification during registration operations.

19. (Previously Presented) A method according to Claim 18 wherein the step of distributing comprises the step of distributing the file packet to a plurality of target on-demand servers each having an identification which may be inserted into the variable field at the target on-demand server.

20. (Previously Presented) An application program distribution system for distributing application programs to a target on-demand server on a network executing on a centralized network management server coupled to the network, the system comprising:

means for providing to the network management server an application program to be distributed to remote servers;

means for specifying a source directory and a target directory for distribution of the application program;

means for preparing a file packet associated with the application program, the file packet including a segment configured to initiate registration operations for the application program at the target on-demand server; and

means for distributing the file packet to the target on-demand server to make the application program available for use by a user at a client.

21. (Canceled)

22. (Previously presented) A computer program product for distributing application programs to a target on-demand server on a network executing on a centralized network management server coupled to the network, the computer program product comprising:

a computer-readable storage medium having computer-readable program code embodied in said medium, said computer-readable program code comprising:

computer readable program code that provides to the network management server an

application program to be distributed to remote servers;

computer readable program code that specifies a source directory and a target directory for distribution of the application program;

computer readable program code means that prepares a file packet associated with the application program, the file packet including a segment configured to initiate registration operations for the application program at the target on-demand server; and

computer readable program code means that distributes the file packet to the target on-demand server to make the application program available for use by a user at a client.

23. (Canceled).

24. (Previously presented) A system according to Claim 20 wherein the network management server is a Tivoli™ server.

25. (Previously presented) A system according to Claim 20 wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target on-demand server to install and register the file packet associated with the application program on the target on-demand server in a manner that makes it recognized and available to the user at the client.

26. (Previously presented) A system according to Claim 20 wherein the application program is provided as a JAVA™ applet and wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target on-demand server inserts its identification during registration operations.

27. (Previously Presented) A system according to Claim 26 wherein the means for distributing comprises means for distributing the file packet to a plurality of target on-demand

servers each having an identification which may be inserted into the variable field at the target on-demand server.

28. (Previously presented) A computer program product according to Claim 22 wherein the network management server is a Tivoli™ server.

29. (Previously presented) A computer program product according to Claim 22 wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target on-demand server to install and register the file packet associated with the application program on the target on-demand server in a manner that makes it recognized and available to the user at the client.

30. (Previously presented) A computer program product according to Claim 22 wherein the application program is provided as a JAVA™ applet and wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target on-demand server inserts its identification during registration operations.

31. (Previously presented) A computer program product according to Claim 30 wherein the computer readable program code that distributes comprises computer readable program code that distributes the file packet to a plurality of target on-demand servers each having an identification which may be inserted into the variable field at the target on-demand server.

32. (Previously Presented) A method according to Claim 15 wherein distributing the file packet is preceded by executing a pre-distribution program at the network management server.

33. (Previously Presented) A method according to Claim 32 wherein executing a pre-distribution program includes determining an environment for the application program that exists on the target on-demand server.

34. (Previously Presented) A method according to Claim 33 wherein preparing a file packet includes including a selected version of an application launcher in the file packet, the selected version being selected based on the determined environment.

35. (Previously Presented) A method according to Claim 15 wherein distributing the file packet is followed by executing an after-distribution program at the target on-demand server.

36. (Previously Presented) A method according to Claim 17 wherein registration operations include maintaining at the target on-demand server a profile management list identifying application programs available for use by the user and wherein the method further comprises updating the profile management list at the target on-demand server to make the application program available for use by the user.

37. (Previously Presented) A method according to Claim 36 wherein the profile management list includes a designation of authorized users for application programs identified in the profile management list.

REMARKS

Applicants appreciate the thorough review of the present application as indicated by the Office Action. Applicants submit that the claims are patentable over the cited art for at least the reasons discussed below. The claims are also patentable for the reasons discussed in Applicants' previous amendments. However, to facilitate the Examiner's reconsideration of this case, only the newly raised issue, the application of the newly cited Anderson reference, will be addressed below. To assure that that this submission is fully responsive to the Office Action, Applicants' previous amendments are incorporated herein by reference in their entirety. Applicants request passing of this application to issuance in light of the comments below and in the previous amendments.

Independent Claims 15, 20 and 22 Are Patentable Over the Cited Art:

Independent Claims 15, 20 and 22 and dependent Claims 32-37 stand rejected under 35 U.S.C. § 103 over United States Patent No. 6,202,206 to Dean et al. ("Dean") in view of United States Patent No. 5,867,713 to Shrader et al. ("Shrader") in view of United States Patent No. 6,047,194 to Andersson ("Andersson"). Office Action, p. 2. However, the explanation of these rejections does not discuss Claims 34-37. Claims 16-17, 24-25 and 28-29 are rejected over Dean, Shrader and Anderson and further in view of United States Patent No. 5,996,012 to Jarriel ("Jarriel"). Office Action, p. 4. However, the explanation of these rejections refers repeatedly to Cheng et al, which is not applied against these claims. In addition, no explanation is provided for the basis of the rejections of Claims 17, 25 and 29. Office Action, p. 4. Claims 15, 20, 22 and 32-37 are then again rejected, this time over Dean, Shrader, Andersson and Jarriel and further in view of view of United States Patent Application No. 2003/0110241 to Cheng et al. ("Cheng"). Office Action, p. 5. However, only Claims 34-37 are discussed and the explanation of those rejections, except for listing Andersson in the first line, are unchanged from the previous Office Action. Office Action, pp. 5-8. Claims 18-19, 26-27 and 30-31 are rejected over Dean, Shrader and Andersson and further in view of United States Patent No. 6,611,498 to Baker et al. ("Baker"). Office Action, p. 8.

As is clear from the preceding paragraph, Applicants are somewhat confused as to the basis for the current rejections as applied to some of the claims. Nonetheless, it would appear that the only substantive change is the reliance on Andersson, rather than Cheng, as disclosing "including a sement configured to initiate registration operations for the application program at the target stationing the file packet (See col. 8, lines 3-14)." Office Action, p. 3. the cited portion of Andersson, in its entirety, reads as follows:

> A determination is also made, indicated by the activity block 124, at the mobile terminal 14 whether to permit transmission of packet data originated by the Internet host 12, as identified in the SMS message, to the mobile terminal. When **a determination is made to permit the transmission of the packet data, an indication of such permission is provided by the mobile terminal, indicated by the sequence segment 128 in which the radio transceiver initiates registration to enter into a packet state, pursuant to packet communication registration procedures**. Thereafter, the packet data is routed to the mobile terminal 14.

Andersson, Col. 8, lines 3-14 (emphasis added).

As an initial matter, the reference to a "segment" in the excerpt of Andersson above is a reference to a line on Figure 2 indicating that the exchange is between the MS 14 and the VPMSC 44. Items 112, 114, 116, 118 and 122 (as well as other such lines) are likewise referred to as segments. Thus, the cited portion of Andersson does not even disclose "including a segment" in a file packet, it describes including a segment line in a figure of a patent to graphically illustrate a communication between source and destination devices.

Assuming that the rejection does not rely on the appearance of the word "segment" in Andersson, the exchange represented by segment 128 of Andersson likewise does not disclose "preparing a file packet associated with the application program and including a segment configured to initiate registration operations for the application program at the target on-demand server" as recited in independent method Claim 15 (or the corresponding recitations of independent Claims 20 and 22). Andersson is merely describing setup of a communication channel for a mobile network including both circuit-switched and packet-switched communication options. Andersson, Col. 2, lines 28-39; Col. 8, lines 3-14. Security is provided for the packet channel by allowing a mobile terminal to provide

"permission" to the network before the network will initiate the packet channel setup. Andersson, Col. 8, lines 7-11. The capability, both hardware and software, for supporting receipt and processing of packet communications over the packet channel are always present on the mobile terminal and at the network, the "permission" sent from the mobile terminal merely authorizes packet channel setup. Thus, even were the "permission" to be considered to be trigger for "registration operations," it is clearly not registering an "application program," it is, at most, registering a device to utilize an already configured service capability. Furthermore, the packet communications capabilities of Andersson are clearly not an "application program" that is distributed by "a network management server" to the mobile terminal as recited in the independent claims. Thus, contrary to the allegation of the Office Action, Andersson clearly does not disclose "including a segment configured to initiate registration operations for the application program." Office Action, p. 3. Accordingly, the rejections of independent Claims 15, 20 and 22 should be withdrawn for at least these reasons.

The Dependent Claims:

Each of the dependent claims is patentable at least based on the patentability of the independent claim from which it depends as discussed above. In addition, various of the dependent claims are separately patentable as discussed in Applicants' previous amendments, which are incorporated by reference above.

Applicants note that the present Office Action fails to include any discussion of a basis for the rejections of Claims 17, 25 and 29. Each of these claims includes further recitations related to the included "segment" discussed above with reference to the independent claims. Applicants submit these claims are separately patentable at least as the Office Action fails to provide any basis for rejecting these claims and Andersson clearly does not disclose such recitations as it fails to even disclose an included segment as recited in the independent claims.

Applicants further note that the basis for the rejections of Claims 34-37 is particularly unclear. As best as Applicants can tell, however, while Andersson is added by reference to

the rejection of the independent claims, the recitations of these dependent claims appear still to be based on Cheng for the same reasons as previously advanced in the last Office Action. However, assuming that this is correct, the present Office Action has failed to respond to any of the arguments presented by Applicants in their amendment mailed June 22, 2005. Accordingly, even though the June amendment has been incorporated by reference above, the portions of that amendment directed to Claims 34-37 will be reproduced herein for the Examiner's convenience:

> With respect to Claims 32-35, the basis for the Examiner's assertion that these recitations are disclosed by Cheng is unclear given that only a paragraph citation is supplied with no explanation as to how the Examiner believes these recitations are disclosed or suggested by the cited portions of Cheng. For example, Claim 34 recites inclusion of "a selected version of an application launcher in the file packet." Applicants can find nothing in the cited portions of Cheng that appears to even remotely relate to an application launcher program, distinct from the application program, that is sent from a centralized network management server to a target on-demand server. As described in the present application:
>
> > as used herein, the term "application launcher program" may refer to the entire program provided by a software vendor or to merely a portion thereof distibuted to a client to perform particular operations. For example, the application launcher program distributed to initially populate the user desktop preferably does not include the code associated with the underlying application program and obtaining preferences which may only be distributed to the client later whcn execution of the application program is requested. The application launcher program distributed to populate the user desktop may only include a URL and an associated ICON and, possibly, code to allow obtaining of user identification and password information. Memory usage on the client stations may thereby be limited.
>
> Specification, p. 22, line 31 to p. 23, line 10. As further described in the present application:
>
> > the application launcher programs may be applets which display the icon which are associated with a web browser Universal Resource Locator (URL) which points to the location of the applet to be executed. Upon selection of the icon displayed by the application launcher, the selected application is "launched" by requesting the URL of the application from the on-demand server. Such requests may be made utilizing conventional Hyper-Text Transfer Protocol (HTTP) communications or other suitable

protocols.

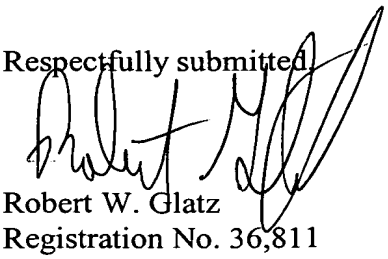
> Specification, p. 15, line 8-15. Applicants can find no disclosure of such an application launcher program in the cited portions of Cheng and, accordingly, Claim 34 is separately patentable for at least these reasons.
>
> With respect to the remaining rejections of dependent Claims 32-33 and 35-37, if the rejections are not withdrawn, Applicants request an explanation of how the recitations of these claims are disclosed by Cheng so that Applicants can fully respond to the rejections.

June Amendment, pp. 9-10. Applicants once again request the courtesy of some clarification of the basis of these rejections in light of the comments above if the rejections are not withdrawn.

CONCLUSION

Applicants respectfully submit that, for the reasons discussed above, the references cited in the present rejections do not disclose or suggest the present invention as claimed. Accordingly, Applicants respectfully request allowance of all the pending claims and passing this application to issue.

Respectfully submitted,



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469836

PATENT APPLICATION FEE DETERMINATION RECORD
Effective December 8, 2004

09/870608

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS		
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	21 minus 20=	* —
INDEPENDENT CLAIMS	3 minus 3 =	* —
MULTIPLE DEPENDENT CLAIM PRESENT		☐

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE ☐		OR	OTHER THAN SMALL ENTITY	
RATE	FEE		RATE	FEE
BASIC FEE	150.00	OR	BASIC FEE	300.00
X$ 25=		OR	X$50=	
X100=		OR	X200=	
+180=		OR	+360=	
TOTAL		OR	TOTAL	

CLAIMS AS AMENDED - PART II

11-9-05

AMENDMENT A	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 21	Minus	** 21	= —
Independent	* 3	Minus	*** 3	= —
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 25=		OR	X$50=	
X100=		OR	X200=	
+180=		OR	+360=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT B	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 25=		OR	X$50=	
X100=		OR	X200=	
+180=		OR	+360=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT C	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 25=		OR	X$50=	
X100=		OR	X200=	
+180=		OR	+360=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,608	05/31/2001	David E. Cox	5577-130DV	9481

20792 7590 09/22/2005

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EXAMINER	
BAYARD, DJENANE M	

ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/870,608	COX ET AL.	
	Examiner	Art Unit	
	Djenane M. Bayard	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This is in response to amendment filed on 6/24/05 in which claims 15-37 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 15, 20 and 22 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues that Cheng fails to teach "including a segment configured to initiate registration operations for the application program at the target station in the file packet". A new prior art is introduced to teach this limitation.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 15, 20, 22 and 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,202,206 to Dean et al. in view of U.S. Patent No. 5,867,713 to Shrader et al in view of U.S. Patent No. 69,047194 to Andersson.

a. As per claims 15, 20 and 22, Dean et al teaches a method for distribution of application programs to a target station on a network comprising the steps executed on a centralized network management server coupled to the network of: providing an application program to be distributed to the network management server (See col. 2, lines 50-67); preparing a file packet

associated with the application program (See col. 5, lines 25-40); and distributing the file packet to the target station (see col. 2, lines 50-67). However, Dean et al fails to teach specifying a source directory and a target directory for distribution of the application program and including a segment configured to initiate registration operations for the application program at the target station in the file packet.

Shrader et al teaches an installation plan object for installing application s in a network. Furthermore, Shrader et al teaches specifying a source directory and a target directory for distribution of the application program (See col. 2, lines 59-67) col. 17 lines 45-61).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate specifying a source directory and a target directory for distribution of the application program as taught by Shrader et al in order to determine if the file directories and files objects are valid and accessible on the network (See col. 2, lines 61-62).

Andersson et al teaches and including a segment configured to initiate registration operations for the application program at the target stationing the file packet (See col. 8, lines 3-14).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate and including a segment configured to initiate registration operations for the application program at the target station as taught by Andersson et al in the claimed invention of Dean et al in view of Shrader et al in order to ensure that only users who are authorized by the provider can obtain updates for software products (See page 4, paragraph [0051]).

b. As per claim 32, Dean et al in view of Shrader et al and further in view of Cheng et al teaches the claimed invention as described above. Furthermore, Dean et al teaches wherein distributing the file packet is preceded by executing a pre-distribution program at the network management server (See col. 8, lines 40-60)

c. As per claim 33, Dean et al in view of Shrader et al and further in view of Cheng et al teaches the claimed invention as described above. Furthermore, Dean et al teaches method wherein executing a pre-distribution program includes determining an environment for the application program that exists on the target on-demand server (See col. 8, lines 12-20).

5. Claims 16-17, 24-25 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,202,206 to Dean et al. in view of U.S. Patent No. 5,867,713 to Shrader et al and further in view of U.S. Patent No. 69,047194 to Andersson as applied above to claim 15, 20 and 22 above, and further in view of U.S. Patent No. 5,996,012 to Jarriel.

a. As per claims 16, 24 and 28, Dean et al in view of Shrader et al and further in view of Cheng et al teaches the claimed invention as described above. However, Dean et al in view of Shrader et al fails to wherein the network management server is a Tivoli. server.

Jarriel teaches wherein the network management server is a Tivoli server (See col. 1, lines 12-35).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the network management server is a Tivoli ser as taught by

Jarriel in the claimed invention of Dean et al in view of Shrader et al in order to permit remote site management and operation (See col. 1, lines 12-35).

6. Claims 15, 20, 22 and 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,202,206 to Dean et al. in view of U.S. Patent No. 5,867,713 to Shrader et al in view of U.S. Patent No. 69,047194 to Andersson and further in view of U.S. Patent No. 5,996,012 to Jarriel as applied above to claim 16 above, and further in view of U.S. Patent Application No. 2003/0110241 to Cheng et al.

a. As per claim 34, Dean et al in view of Shrader et al and further in view of Andersson teaches the claimed invention as described above. However, Dean et al in view of Shrader et al in view of Andersson fails to teach wherein preparing a file packet includes including a selected version of an application launcher in the file packet, the selected version being selected based on the determined environment.

Cheng et al teaches wherein preparing a file packet includes including a selected version of an application launcher in the file packet, the selected version being selected based on the determined environment (See page 4, paragraph [0054]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein preparing a file packet includes including a selected version of an application launcher in the file packet, the selected version being selected based on the determined environment as taught by Cheng et al in the claimed invention of Dean et al in view

of Shrader et al in view of Andersson in order to download relevant update for the software product (See page 4, paragraph [0053]).

b. As per claim 35, Dean et al in view of Shrader et al and further in view of Andersson teaches the claimed invention as described above. However, Dean et al in view of Shrader et al fails to teach wherein distributing the file packet is followed by executing an after-distribution program at the target on-demand server.

Cheng et al teaches wherein distributing the file packet is followed by executing an after-distribution program at the target on-demand server (See page 4, paragraph [0054]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein distributing the file packet is followed by executing an after-distribution program at the target on-demand server as taught by Cheng et al in the claimed invention of Dean et al in view of Shrader et al in order to download relevant update for the software product (See page 4, paragraph [0053]).

c. As per claim 36, Dean et al in view of Shrader et al and further in view of Andersson teaches the claimed invention as described above. However, Dean et al in view of Shrader et al and further in view of Anderson fails to teach wherein registration operations include maintaining at the target on-demand server a profile management list identifying application programs available for use by the user and wherein the method further comprises updating the profile management list at the target on-demand server to make the application program available for use by the user.

Cheng et al teaches wherein registration operations include maintaining at the target on-demand server a profile management list identifying application programs available for use by the user and wherein the method further comprises updating the profile management list at the target on-demand server to make the application program available for use by the user (See page 4, paragraph [0054]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein registration operations include maintaining at the target on-demand server a profile management list identifying application programs available for use by the user and wherein the method further comprises updating the profile management list at the target on-demand server to make the application program available for use by the user as taught by Cheng et al in the claimed invention of Dean et al in view of Shrader et al in view of Anderson in order to download relevant update for the software product (See page 4, paragraph [0053]).

d. As per claim 37, Dean et al in view of Shrader et al and further in view of Anderson teaches the claimed invention as described above. However, Dean et al in view of Shrader et al fails to teach wherein the profile management list includes a designation of authorized users for application programs identified in the profile management list.

Cheng et al teaches wherein the profile management list includes a designation of authorized users for application programs identified in the profile management list (See page 4, paragraph [0054]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the profile management list includes a designation of authorized users for application programs identified in the profile management list as taught by Cheng et al in the claimed invention of Dean et al in view of Shrader et al in order to download relevant update for the software product (See page 4, paragraph [0053]).

7. Claims 18-19, 26-27 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,202,206 to Dean et al. in view of U.S. Patent No. 5,867,713 to Shrader et al further in view of U.S. Patent 6,047194 to Andersson, and further in view of U.S. Patent No. 5,996,012 to Jarriel as applied to claim 16 above, and further in view of U.S. Patent No. 6,611,498 to Baker et al.

a. As per claims 18, 26 and 30, Dean et al in view of Shrader in view of Andersson teaches the claimed invention as described above. Furthermore, Dean et al teaches wherein the segment configured to initiate registration operations includes a variable field into which the target station inserts its identification during registration operations (See col. 8, lines 1-12 and figures 18 and 19). However, Dean et al fails to teach wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target station inserts its identification during registration operations.

Baker et al teaches wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target station inserts its identification during registration operations (See col. 14, lines 22-41).

It would have been obvious to one with ordinary skill in the art at the time invention was made to incorporate wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate identification during registration operations as taught by Baker et al in the claimed invention of Dean et al in view of Shrader et al in order to simplify the enterprise burden by limiting the client development side to screen layouts and data presentation tools that use a common interface enabled by the web browser (See col. 2, lines 50-57).

b. As per claim 19, 26 and 31, Dean et al teaches distributing comprises the step of distributing the file packet to a plurality of target stations each having an identification which may be inserted into the variable field at the target station (See col. 8, lines 1-12 and figures 18 and 19).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djenane M. Bayard whose telephone number is (571) 272-3878. The examiner can normally be reached on Monday- Friday 5:30 AM- 3:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Djenane Bayard

Patent Examiner

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER

Notice of References Cited	Application/Control No. 09/870,608	Applicant(s)/Patent Under Reexamination COX ET AL.	
	Examiner Djenane M. Bayard	Art Unit 2141	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-6,047,194	04-2000	Andersson, Dick	455/466
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims

Application/Control No.	Applicant(s)/Patent under Reexamination
09/870,608	COX ET AL.
Examiner	**Art Unit**
Djenane M. Bayard	2141

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claim		Date
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Search Notes	Application/Control No.	Applicant(s)/Patent under Reexamination	
	09/870,608	COX ET AL.	
	Examiner	Art Unit	
	Djenane M. Bayard	2141	

SEARCHED			
Class	Subclass	Date	Examiner
709	223	9/8/2005	DB
709	203	9/8/2005	DB

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
East	9/8/2005	DB

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	287	(software with distribution).ab.	US-PGPUB; USPAT	OR	ON	2005/09/08 07:04
S2	361	(source with directory) and (target with directory)	US-PGPUB; USPAT	OR	ON	2004/08/25 08:03
S3	62	tivoli with server	US-PGPUB; USPAT	OR	ON	2004/08/25 08:03
S4	165	(application with network with distribution) and (java with applet)	US-PGPUB; USPAT	OR	ON	2004/08/25 08:04
S5	57	(java with applet with url) and (software with distribution)	US-PGPUB; USPAT	OR	ON	2004/08/25 08:04
S6	1	("6202206").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:49
S7	1	("20020186705").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:51
S8	1	("20040083299").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:51
S9	1	("6430233").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:52
S10	1	("6101616").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:52
S11	1	("6424650").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:39
S12	1	("6202206").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:42
S13	1	("5867713").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:42
S14	23	("5867713").URPN.	USPAT	OR	ON	2005/03/18 16:44
S15	1	("20020032763").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:48
S16	1	("6510466").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:46
S17	6	("6510466").URPN.	USPAT	OR	ON	2005/03/18 16:47
S18	1	"20020032763".pn. and (target with demand)	US-PGPUB; USPAT	OR	ON	2005/03/18 16:49
S19	6	("6510466").URPN.	USPAT	OR	ON	2005/03/18 17:13

S20	36	("5263165" | "5440739" | "5554979" | "5634010" | "5655081" | "5680615" | "5689709" | "5708709" | "5745879" | "5748896" | "5764887" | "5771354" | "5778368" | "5809251" | "5813009" | "5845077" | "5848243" | "5875327" | "5881236" | "5911066" | "5933601" | "6070190" | "6098067" | "6105063" | "6105066" | "6105069" | "6108712" | "6115040" | "6158010" | "6175363" | "6175832" | "6182142" | "6189051" | "6192414" | "6195432" | "6202206").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:14
S21	78	("5845077").URPN.	USPAT	OR	ON	2005/03/18 17:28
S22	42	("5204897" | "5260999" | "5263165" | "5440739" | "5554979" | "5634010" | "5655081" | "5671412" | "5680615" | "5689708" | "5708709" | "5745879" | "5748896" | "5752041" | "5764887" | "5771354" | "5778368" | "5809251" | "5813009" | "5845065" | "5845077" | "5848243" | "5875327" | "5881236" | "5911066" | "5933601" | "6021438" | "6070190" | "6098067" | "6105063" | "6105066" | "6105069" | "6108712" | "6115040" | "6158010" | "6175363" | "6175832" | "6182142" | "6189051" | "6192414" | "6195432" | "6202206").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:35
S23	0	("6728766").URPN.	USPAT	OR	ON	2005/03/18 17:37

S24	38	("4885770" | "5263165" | "5440739" | "5554979" | "5634010" | "5655081" | "5680615" | "5689708" | "5745879" | "5748896" | "5764887" | "5771354" | "5778368" | "5809251" | "5813009" | "5845077" | "5848243" | "5875327" | "5881236" | "5889942" | "5905492" | "5911066" | "5933601" | "6003083" | "6023273" | "6070190" | "6098067" | "6105063" | "6105066" | "6105069" | "6108712" | "6115040" | "6158010" | "6175363" | "6175832" | "6189051" | "6192414" | "6195432").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:47
S25	667	((client with regist$6) or (client with authenticat$3) or (client with login$3)) same ((software with download$3) or (software with updat$3) or (software with upload$3) or (data with transferr$3))	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:50
S26	220	((client with regist$6) or (client with authenticat$3) or (client with login$3)) same ((software with download$3) or (software with updat$3) or (software with upload$3) or (data with transferr$3))and "709"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:51
S27	556	((client with regist$6) or (client with authenticat$3) or (client with login$3)) same ((software with download$3) or (software with updat$3) or (software with upload$3) or (software with distribut$3))	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:51
S28	220	((client near2 regist$6) or (client near2 authenticat$3) or (client near2 login$3)) same ((software with download$3) or (software with updat$3) or (software with upload$3) or (software with distribut$3))	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:52
S29	88	((client near2 regist$6) or (client near2 authenticat$3) or (client near2 login$3)) same ((software near2 download$3) or (software near2 updat$3) or (software near2 upload$3) or (software near2 distribut$3))	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:55

S30	1	"20020032763".pn. and registration	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 20:42
S31	1013	(regist$6 with application with distribut$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 18:01
S32	1335694	(regist$6 with application with programwith distribut$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 18:01
S33	87	(regist$6 with application with program with distribut$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 18:01
S34	1	"20020032763".pn. and (file with packet)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 20:51
S35	322	(file adj packet)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:05
S36	3	(file adj packet) same application same regist$6	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 20:52
S37	68	(file adj packet) same application	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 20:58
S38	158	(segment with initiat$3 with regist$6)	US-PGPUB; USPAT	OR	ON	2005/03/18 21:03
S39	4	(file adj packet)with regist$6	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:08
S40	1386	server with distribut$3 with regist$6	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:08
S41	934	server with distribut$3 with regist$6 with (application or software or data or information)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:09
S42	982	server with distribut$3 with regist$6 with (application or software or data or information or file)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:10
S43	0	server with distribut$3 with regist$6 with (application or software or data or information or file) with packet with segment	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:10
S44	255	server with distribut$3 with regist$6 with (application or software or data or information or file) and "709"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:11

S45	420	server with distribut$3 with regist$6 with (application or software or data or information or file) with (user or client)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:11
S46	128	server with distribut$3 with regist$6 with (application or software or data or information or file) with (user or client) with network	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:12
S47	1	(shared adj directory) with (application with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:46
S48	2	(shared with directory) with (application with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:47
S49	3	(shar$3 with directory) with (application with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:47
S50	2041	(application with test$3).ab.	US-PGPUB; USPAT	OR	ON	2005/03/19 10:48
S51	11	(application with test$3).ab. and (interoperability with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:52
S52	140	(interoperability with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:52
S53	4	(interoperability with test$3)and ((directory with shar$3) or (area with shar$3))	US-PGPUB; USPAT	OR	ON	2005/03/19 10:59
S54	1	("6401135").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/19 11:02
S55	1	("6260065").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/19 11:03
S56	1	("6253368").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/19 11:03
S57	4	("6253368").URPN.	USPAT	OR	ON	2005/03/19 11:19
S58	0	("6401135").URPN.	USPAT	OR	ON	2005/03/19 11:20
S59	8	("4617663" | "5218605" | "5390325" | "5481721" | "5485617" | "5615333" | "5715373" | "5751941").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/19 11:37
S60	140	interoperability with test$3	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/19 11:37
S61	946	(software with distribut$3).ab.	US-PGPUB; USPAT	OR	ON	2005/03/31 14:49
S62	7	(software with distribut$3 with regist$4).ab.	US-PGPUB; USPAT	OR	ON	2005/03/31 14:50
S63	7	"6510466"	US-PGPUB; USPAT	OR	ON	2005/03/31 15:43
S64	6	("6510466").URPN.	USPAT	OR	ON	2005/03/31 15:09

S65	36	("5263165" | "5440739" | "5554979" | "5634010" | "5655081" | "5680615" | "5689709" | "5708709" | "5745879" | "5748896" | "5764887" | "5771354" | "5778368" | "5809251" | "5813009" | "5845077" | "5848243" | "5875327" | "5881236" | "5911066" | "5933601" | "6070190" | "6098067" | "6105063" | "6105066" | "6105069" | "6108712" | "6115040" | "6158010" | "6175363" | "6175832" | "6182142" | "6189051" | "6192414" | "6195432" | "6202206").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:13
S66	264	(software adj2 distribut$3) same (regist$3 or logging or authenticat$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:15
S67	0	(software adj2 distribut$3) same (regist$3 or logging or authenticat$3) <= "19991118"	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:15
S68	0	(software adj2 distribut$3) same (regist$3 or logging or authenticat$3)and @pd<= "19991118"	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:15
S69	264	(software adj2 distribut$3) same (regist$3 or logging or authenticat$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:32
S70	1	("5825877").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/31 15:32
S71	62	("6049671").URPN.	USPAT	OR	ON	2005/03/31 15:33
S72	0	"6202206".pn. and (logging or regist$4 or authenticat$3)	US-PGPUB; USPAT	OR	ON	2005/03/31 15:49
S73	21	(segment with initiat$3 with registration)	US-PGPUB; USPAT	OR	ON	2005/03/31 15:49
S74	40	(logging with software with download$3)	US-PGPUB; USPAT	OR	ON	2005/03/31 16:05
S75	4693	(data or software or information or application) with (distribut$3 or transfer$4) with (logging or authenticat$3)	US-PGPUB; USPAT	OR	ON	2005/03/31 16:06
S76	836	(data or software or information or application) with (distribut$3 or transfer$4) with (logging or authenticat$3) and "709"/$3.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07

S77	836	(data or software or information or application) with (distribut$3 or transfer$4) with (logging or authenticat$3) and "709"/$.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S78	447	(data or software or information or application) with (distribut$3) with (logging or authenticat$3) and "709"/$.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S79	339	(software or information or application) with (distribut$3) with (logging or authenticat$3) and "709"/$.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S80	189	(software or application) with (distribut$3) with (logging or authenticat$3) and "709"/$.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S81	1	("2003/0110241").URPN.	USPAT	OR	ON	2005/03/31 16:10
S82	18	("20020152290" | "20030110248" | "5396613" | "5630116" | "5634008" | "5696486" | "5919247" | "5933647" | "5987497" | "6031533" | "6035423" | "6110228" | "6389426" | "6526447" | "6581092" | "6591296" | "6604237" | "6704782").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 16:14
S83	1	"20030110241".pn. and (authenticat$3 or logging or regist$4)	US-PGPUB; USPAT	OR	ON	2005/03/31 16:44
S84	2	("20020032763").PN.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2005/09/08 07:40
S85	10	(packet with segment with regist$6 with (begin$3 or start$3 or initiat$3))	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2005/09/08 07:44
S86	10	(packet with segment with regist$6 with (begin$3 or start$3 or initiat$3))	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2005/09/08 07:48
S87	249	(packet with (segment or section or header or portion or byte) with regist$6 with (begin$3 or start$3 or initiat$3))	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2005/09/08 07:49
S88	40	(packet with (segment or section or header or portion or byte) with regist$6 with (begin$3 or start$3 or initiat$3)) and "709"/$.ccls.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2005/09/08 07:49

S89	69	(segment or byte or header) with (initializ$3 or initiat$3) with (registration)	US-PGPUB; USPAT	OR	ON	2005/09/09 06:04

2141

Attorney Docket No. 5577-130DV

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Cox et al.
Application Serial No.: 09/870,608
Filed: May 31, 2001
For: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

Examiner: Djenane M. Bayard
Group Art Unit: 2141
Confirmation No.: 9481

June 22, 2005

Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Certificate of Mailing under 37 CFR 1.8
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on June 22, 2005

Carey Gregory

AMENDMENT

Sir:

Applicants provide the present Amendment to address the issues raised in the Office Action mailed April 22, 2005 ("the Office Action").

If any extension of time for the accompanying response or submission is required, Applicant requests that this be considered a petition therefor. The Commissioner is hereby authorized to charge any additional fee, which may be required, or credit any refund, to Deposit Account No. 09-0461.

Amendments to the claims are reflected in the Listing of the Claims beginning on page 2 of this paper.

Remarks begin on page 7 of this paper.

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

1-14. (Canceled)

15. (Currently amended) A method for distribution of application programs to a target on-demand server on a network comprising the [[steps]] following executed on a centralized network management server coupled to the network [[of]]:

providing an application program to be distributed to the network management server;

specifying a source directory and a target directory for distribution of the application program;

preparing a file packet associated with the application program and including a segment configured to initiate registration operations for the application program at the target on-demand server; and

distributing the file packet to the target on-demand server to make the application program available for use by a user at a client.

16. (Original) A method according to Claim 15 wherein the network management server is a Tivoli™ server.

17. (Currently amended) A method according to Claim [[16]] 15 wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target on-demand server to install and register the file packet associated with the application program on the target on-demand server in a manner that makes it recognized and available to the user at the client.

18. (Currently amended) A method according to Claim [[16]] 15 where the

application program is provided as a JAVA™ applet and wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target on-demand server inserts its identification during registration operations.

19. (Previously Presented) A method according to Claim 18 wherein the step of distributing comprises the step of distributing the file packet to a plurality of target on-demand servers each having an identification which may be inserted into the variable field at the target on-demand server.

20. (Previously Presented) An application program distribution system for distributing application programs to a target on-demand server on a network executing on a centralized network management server coupled to the network, the system comprising:

means for providing to the network management server an application program to be distributed to remote servers;

means for specifying a source directory and a target directory for distribution of the application program;

means for preparing a file packet associated with the application program, the file packet including a segment configured to initiate registration operations for the application program at the target on-demand server; and

means for distributing the file packet to the target on-demand server to make the application program available for use by a user at a client.

21. (Canceled)

22. (Currently amended) A computer program product for distributing application programs to a target on-demand server on a network executing on a centralized network management server coupled to the network, the computer program product comprising:

a computer-readable storage medium having computer-readable program code [[means]] embodied in said medium, said computer-readable program code [[means]] comprising:

computer readable program code ~~means for providing~~ that provides to the network management server an application program to be distributed to remote servers;

computer readable program code ~~means for specifying~~ that specifies a source directory and a target directory for distribution of the application program;

computer readable program code means ~~for preparing~~ that prepares a file packet associated with the application program, the file packet including a segment configured to initiate registration operations for the application program at the target on-demand server; and

computer readable program code means ~~for distributing~~ that distributes the file packet to the target on-demand server to make the application program available for use by a user at a client.

23. (Canceled).

24. (Previously presented) A system according to Claim 20 wherein the network management server is a Tivoli™ server.

25. (Currently amended) A system according to Claim [[24]] 20 wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target on-demand server to install and register the file packet associated with the application program on the target on-demand server in a manner that makes it recognized and available to the user at the client.

26. (Currently amended) A system according to Claim [[24]] 20 wherein the application program is provided as a JAVA™ applet and wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a

variable field into which the target on-demand server inserts its identification during registration operations.

27. (Previously Presented) A system according to Claim 26 wherein the means for distributing comprises means for distributing the file packet to a plurality of target on-demand servers each having an identification which may be inserted into the variable field at the target on-demand server.

28. (Previously presented) A computer program product according to Claim 22 wherein the network management server is a Tivoli™ server.

29. (Currently amended) A computer program product according to Claim [[28]] 22 wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target on-demand server to install and register the file packet associated with the application program on the target on-demand server in a manner that makes it recognized and available to the user at the client.

30. (Currently amended) A computer program product according to Claim [[28]] 22 wherein the application program is provided as a JAVA™ applet and wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target on-demand server inserts its identification during registration operations.

31. (Currently Amended) A computer program product according to Claim 30 wherein the computer readable program code ~~means for distributing~~ that distributes comprises computer readable program code ~~means for distributing~~ that distributes the file packet to a plurality of target on-demand servers each having an identification which may be inserted into the variable field at the target on-demand server.

32. (Previously Presented) A method according to Claim 15 wherein distributing the file packet is preceded by executing a pre-distribution program at the network management server.

33. (Previously Presented) A method according to Claim 32 wherein executing a pre-distribution program includes determining an environment for the application program that exists on the target on-demand server.

34. (Previously Presented) A method according to Claim 33 wherein preparing a file packet includes including a selected version of an application launcher in the file packet, the selected version being selected based on the determined environment.

35. (Previously Presented) A method according to Claim 15 wherein distributing the file packet is followed by executing an after-distribution program at the target on-demand server.

36. (Previously Presented) A method according to Claim 17 wherein registration operations include maintaining at the target on-demand server a profile management list identifying application programs available for use by the user and wherein the method further comprises updating the profile management list at the target on-demand server to make the application program available for use by the user.

37. (Previously Presented) A method according to Claim 36 wherein the profile management list includes a designation of authorized users for application programs identified in the profile management list.

REMARKS

Applicants appreciate the thorough review of the present application as indicated by the Office Action. Applicants submit that the claims are patentable over the cited art for at least the reasons discussed below. The claims are also patentable for the reasons dicussed in Applicants' previous amendment. However, to facilitate the Examiner's reconsideration of this case, only the newly raised issues will be addressed below. To assure that that this submission is fully responsive to the Office Action, Applicants' previous amendment is incorporated herein by reference in its entirety. Applicants request passing of this application to issuance in light of the comments below and in the previous amendment.

Independent Claims 15, 20 and 22 Are Patentable Over the Cited Art:

Independent Claims 15, 20 and 22 and dependent Claims 32-37 stand rejected under 35 U.S.C. § 103 over United States Patent No. 6,202,206 to Dean et al. ("Dean") in view of United States Patent No. 5,867,713 to Shrader et al. ("Shrader") in view of United States Patent Application No. 52003/0110241 to Cheng et al. ("Cheng"). Office Action, p. 3. The remaining dependent claims stand rejected as obvious over Dean, Shrader and Cheng in combination with one or more of United States Patent No. 5,996,012 to Jarriel ("Jarriel") and United States Patent No. 6,611,498 to Baker et al. ("Baker").

Independent method Claim 15 recites:

> A method for distribution of application programs **to a target on-demand server** on a network comprising the following executed on a centralized network management server coupled to the network:
>
> providing an application program to be distributed to the network management server;
>
> specifying a source directory and a target directory for distribution of the application program;
>
> **preparing a file packet associated with the application program and including a segment configured to initiate registration operations for the application program at the target on-demand server; and**
>
> **distributing the file packet to the target on-demand server to make the application program available for use by a user at a client.**

Independent system and computer program product Claims 20 and 22 contain corresponding

recitations. Applicants submit that at least the highlighted portions of Claim 15 are not disclosed or suggested by the cited prior art as the addition of the Cheng reference to the rejections fails to overcome the deficiencies of the rejection as discussed in the Applicants' previous amendment.

As is clear from the highlighted recitations of Claim 15, the claimed embodiments of Claim 15 are directed to distribution of application programs from a network management computer to on-demand server(s) and to registering the application programs at the on-demand server(s) so that they will be available to users accessing the programs from client computers.

The Office Action acknowledges that the primary reference, Dean, does not teach, among other things, "including a segment configured to initiate registration operations for the application program at the target station in the file packet." Office Action, p. 3. However, the Office Action asserts that Cheng provides such teachings. The portion of Cheng relied on for such a teaching, in its entirety, reads as follows:

> In each case, the user logs in 201 to the service provider computer 102 with the client application 104 in a conventional manner, providing a user ID, a password, and the like. This information may be manually entered by the user via the client application 104, or more preferably, stored within the client application 104, and automatically provided once a connection between the client computer 101 and service provider computer 102 is established. If the user is not registered, then the service provider computer 102 in conjunction with inputs by the user, registers 202 the new user of the system. FIG. 3 illustrates a basic user interface 300 for registering the user. The user identifies himself or herself by name 301 and selects a password 303. The user may also provide a mailing address 305 and a payment mechanism such as a credit card data 311, including a credit card number and expiration date, to pay for the services and for any for-fee software updates that the user may access in the course of using the service provided by the service provider computer 102. An email address 307 is entered to allow the service provider to contact the user by email. The user may select check box 309 to indicate that they want to be notified by email when new software updates are available for software products installed on their computer. When the registration process 202 is completed, the service provider computer 102 returns a unique registration number to the user. This number may be stored on the client computer 101 and used during subsequent logins to identify the user to the service provider computer 102.

Cheng, ¶ 50.

Applicants are unclear what is relied on as teaching either the file packet, the segment or configured to initiate registration operations in this cited portion of Cheng. At most, the cited portion of Cheng seems to suggest that a user at a client may provide registration information to a service provider computer 102 to set-up access to an application at the service provider computer. The service provider computer may then send a "registration number to the user." In contrast, Claim 15 recites distributing a file packet from a centralized network management server to a target on-demand server to make an application program available for use by a user at a client. Thus, the file packet is sent from the network management server to the target on-demand server, not between a client and a service provider computer. Furthermore, the file packet includes a segment configured to initiate registration operations for the application program at the target on-demand server. Thus, an exchange, not involving a client, to enable availability of a program at a target on-demand server is recited in Claim 15. Nothing in the cited portion of Cheng discloses or suggests any such operations. In contrast, Cheng assumes the program is already available at the service provider computer (on-demand server in Examiner's rejection?) and user access is controlled for security purposes by the on-demand server. Accordingly, the rejections of independent Claims 15, 20 and 22 should be withdrawn for at least these reasons.

The Dependent Claims:

Each of the dependent claims is patentable at least based on the patentability of the independent claim from which it depends as discussed above. In addition, various of the dependent claims are separately patentable as discussed in Applicants' previous amendment, which is incorporated by reference above.

With respect to Claims 32-35, the basis for the Examiner's assertion that these recitations are disclosed by Cheng is unclear given that only a paragraph citation is supplied with no explanation as to how the Examiner believes these recitations are disclosed or suggested by the cited portions of Cheng. For example, Claim 34 recites inclusion of "a selected version of an application launcher in the file packet." Applicants can find nothing in the cited portions of Cheng that appears to even remotely relate to an application launcher

program, distinct from the application program, that is sent from a centralized network management server to a target on-demand server. As described in the present application:

> as used herein, the term "application launcher program" may refer to the entire program provided by a software vendor or to merely a portion thereof distibuted to a client to perform particular operations. For example, the application launcher program distributed to initially populate the user desktop preferably does not include the code associated with the underlying application program and obtaining preferences which may only be distributed to the client later when execution of the application program is requested. The application launcher program distributed to populate the user desktop may only include a URL and an associated ICON and, possibly, code to allow obtaining of user identification and password information. Memory usage on the client stations may thereby be limited.

Specification, p. 22, line 31 to p. 23, line 10. As further described in the present application:

> the application launcher programs may be applets which display the icon which are associated with a web browser Universal Resource Locator (URL) which points to the location of the applet to be executed. Upon selection of the icon displayed by the application launcher, the selected application is "launched" by requesting the URL of the application from the on-demand server. Such requests may be made utilizing conventional Hyper-Text Transfer Protocol (HTTP) communications or other suitable protocols.

Specification, p. 15, line 8-15. Applicants can find no disclosure of such an application launcher program in the cited portions of Cheng and, accordingly, Claim 34 is separately patentable for at least these reasons.

With respect to the remaining rejections of dependent Claims 32-33 and 35-37, if the rejections are not withdrawn, Applicants request an explanation of how the recitations of these claims are disclosed by Cheng so that Applicants can fully respond to the rejections.

CONCLUSION

Applicants respectfully submit that, for the reasons discussed above, the references cited in the present rejections do not disclose or suggest the present invention as claimed. Accordingly, Applicants respectfully request allowance of all the pending claims and passing this application to issue.

Respectfully submitted,

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444290

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2000

Application or Docket Number: 09/878,808 (handwritten; overwritten)

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	15	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	15 minus 20=	* 0
INDEPENDENT CLAIMS	3 minus 3 =	* 0
MULTIPLE DEPENDENT CLAIM PRESENT		☐

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE ☐ RATE	FEE	OR	OTHER THAN SMALL ENTITY RATE	FEE
BASIC FEE	355.00	OR	BASIC FEE	710.00
X$ 9=		OR	X$18=	—
X40=		OR	X80=	—
+135=		OR	+270=	—
TOTAL		OR	TOTAL	710

CLAIMS AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 15	Minus	** 20	= —
Independent	* 3	Minus	*** 3	= —
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY RATE	ADDITIONAL FEE	OR	OTHER THAN SMALL ENTITY RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	—
X40=		OR	X80=	—
+135=		OR	+270=	—
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

12/9/04

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 21	Minus	** 20	= 1
Independent	* 3	Minus	*** 3	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY RATE	ADDITIONAL FEE	OR	OTHER THAN SMALL ENTITY RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	50
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	50

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6/24/05

AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 21	Minus	** 21	= —
Independent	* 3	Minus	*** 3	= —
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY RATE	ADDITIONAL FEE	OR	OTHER THAN SMALL ENTITY RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

FORM PTO-875
(Rev. 8/00)

Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,608	05/31/2001	David E. Cox	5577-130DV	9481

20792 7590 04/22/2005

MYERS BIGEL SIBLEY & SAJOVEC
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EXAMINER	
BAYARD, DJENANE M	
ART UNIT	**PAPER NUMBER**
2141	

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/870,608	COX ET AL.	
	Examiner	Art Unit	
	Djenane M Bayard	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-20,22 and 24-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-20,22 and 24-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 15 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues that the prior art of record U.S. Patent No. 6,202206 to Dean et al fails to teach the claim embodiment directed to "distribution of application programs from a network management computer to on-demand server". However, Dean et al teaches makings all installations and settings on all the computer in the network via the primary server computer based upon the previously recorded stored profile with applications programs which have been previously loaded in the primary server computer for distribution (See col. 5, line 35-40). The examiner agrees that Dean et al does not explicitly teaches " providing a file packet to target on-demand servers to initiate registration operations to make an application program available to a use at a client". Therefore a new prior art of record U.S. Patent Application No. 2003/0110241 to Cheng, Jr. et al is introduced to teach the above limitation.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 15, 20, 22 and 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,202,206 to Dean et al. in view of U.S. Patent No. 5,867,713 to Shrader et al in view of U.S. Patent Application 2003/0110241 to Cheng, Jr. et al.

a. As per claims 15, 20 and 22, Dean et al teaches a method for distribution of application programs to a target station on a network comprising the steps executed on a centralized network management server coupled to the network of: providing an application program to be distributed to the network management server (See col. 2, lines 50-67); preparing a file packet associated with the application program (See col. 5, lines 25-40); and distributing the file packet to the target station (see col. 2, lines 50-67). However, Dean et al fails to teach specifying a source directory and a target directory for distribution of the application program and including a segment configured to initiate registration operations for the application program at the target station in the file packet.

Shrader et al teaches an installation plan object for installing application s in a network. Furthermore, Shrader et al teaches specifying a source directory and a target directory for distribution of the application program (See col. 2, lines 59-67) col. 17 lines 45-61).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate specifying a source directory and a target directory for distribution of the application program as taught by Shrader et al in order to determine if the file directories and files objects are valid and accessible on the network (See col. 2, lines 61-62).

Cheng et al teaches and including a segment configured to initiate registration operations for the application program at the target stationing the file packet (See page 4, paragraph [0050]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate and including a segment configured to initiate registration operations for the application program at the target station as taught by Cheng et al in the claimed invention of Dean et al in view of Shrader et al in order to ensure that only users who are authorized by the provider can obtain updates for software products (See page 4, paragraph [0051]).

b. As per claim 32, Dean et al in view of Shrader et al and further in view of Cheng et al teaches the claimed invention as described above. Furthermore, Dean et al teaches wherein distributing the file packet is preceded by executing a pre-distribution program at the network management server (See col. 8, lines 40-60)

c. As per claim 33, Dean et al in view of Shrader et al and further in view of Cheng et al teaches the claimed invention as described above. Furthermore, Dean et al teaches method wherein executing a pre-distribution program includes determining an environment for the application program that exists on the target on-demand server (See col. 8, lines 12-20).

d. As per claim 34, Dean et al in view of Shrader et al and further in view of Cheng et al teaches the claimed invention as described above. However, Dean et al in view of Shrader et al fails to teach wherein preparing a file packet includes including a selected version of an

application launcher in the file packet, the selected version being selected based on the determined environment.

Cheng et al teaches wherein preparing a file packet includes including a selected version of an application launcher in the file packet, the selected version being selected based on the determined environment (See page 4, paragraph [0054]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein preparing a file packet includes including a selected version of an application launcher in the file packet, the selected version being selected based on the determined environment as taught by Cheng et al in the claimed invention of Dean et al in view of Shrader et al in order to download relevant update for the software product (See page 4, paragraph [0053]).

e. As per claim 35, Dean et al in view of Shrader et al and further in view of Cheng et al teaches the claimed invention as described above. However, Dean et al in view of Shrader et al fails to teach wherein distributing the file packet is followed by executing an after-distribution program at the target on-demand server.

Cheng et al teaches wherein distributing the file packet is followed by executing an after-distribution program at the target on-demand server (See page 4, paragraph [0054]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein distributing the file packet is followed by executing an after-distribution program at the target on-demand server as taught by Cheng et al in the claimed

invention of Dean et al in view of Shrader et al in order to download relevant update for the software product (See page 4, paragraph [0053]).

f. As per claim 36, Dean et al in view of Shrader et al and further in view of Cheng et al teaches the claimed invention as described above. However, Dean et al in view of Shrader et al fails to teach wherein registration operations include maintaining at the target on-demand server a profile management list identifying application programs available for use by the user and wherein the method further comprises updating the profile management list at the target on-demand server to make the application program available for use by the user.

Cheng et al teaches wherein registration operations include maintaining at the target on-demand server a profile management list identifying application programs available for use by the user and wherein the method further comprises updating the profile management list at the target on-demand server to make the application program available for use by the user (See page 4, paragraph [0054]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein registration operations include maintaining at the target on-demand server a profile management list identifying application programs available for use by the user and wherein the method further comprises updating the profile management list at the target on-demand server to make the application program available for use by the user as taught by Cheng et al in the claimed invention of Dean et al in view of Shrader et al in order to download relevant update for the software product (See page 4, paragraph [0053]).

g. As per claim 37, Dean et al in view of Shrader et al and further in view of Cheng et al teaches the claimed invention as described above. However, Dean et al in view of Shrader et al fails to teach wherein the profile management list includes a designation of authorized users for application programs identified in the profile management list.

Cheng et al teaches wherein the profile management list includes a designation of authorized users for application programs identified in the profile management list (See page 4, paragraph [0054]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the profile management list includes a designation of authorized users for application programs identified in the profile management list as taught by Cheng et al in the claimed invention of Dean et al in view of Shrader et al in order to download relevant update for the software product (See page 4, paragraph [0053]).

4. Claims 16-17, 24-25 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,202,206 to Dean et al. in view of U.S. Patent No. 5,867,713 to Shrader et al further in view of U.S. Patent Application 2003/0110241 to Cheng, Jr. et al as applied to claim 15, 20 and 22 above, and further in view of U.S. Patent No. 5,996,012 to Jarriel.

a. As per claims 16, 24 and 28, Dean et al in view of Shrader et al and further in view of Cheng et al teaches the claimed invention as described above. However, Dean et al in view of Shrader et al fails to wherein the network management server is a Tivoli. server.

Jarriel teaches wherein the network management server is a Tivoli server (See col. 1, lines 12-35).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the network management server is a Tivoli ser as taught by Jarriel in the claimed invention of Dean et al in view of Shrader et al in order to permit remote site management and operation (See col. 1, lines 12-35).

b. As per claim 17, 25 and 29, Dean et al in view of Shrader et al and further in view of Cheng et al teaches the claimed invention as described above. However, Dean et al in view of Shrader et al fails to teach wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target station (See col. 2, lines 50-67).

Cheng et al teaches wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target station (See page 4, paragraph [0050]).

It would have been obvious to one with ordinary skill in the art at the time of the invention to incorporate wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target station as taught by Cheng et al in the claimed invention of Dean et al in view of Shrader et al in order to ensure that only users who are authorized by the provider can obtain updates for software products (See page 4, paragraph [0051]).

5. Claims 18-19, 26-27 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,202,206 to Dean et al. in view of U.S. Patent No. 5,867,713 to Shrader et al further in view of U.S. Patent Application 2003/0110241 to Cheng, Jr. et al as applied to claims 15, 20 and 22 above, and further in view of U.S. Patent No. 5,996,012 to Jarriel and further in view of U.S. Patent No. 6,611,498 to Baker et al.

a. As per claims 18, 26 and 30, Dean et al in view of Shrader teaches the claimed invention as described above. Furthermore, Dean et al teaches wherein the segment configured to initiate registration operations includes a variable field into which the target station inserts its identification during registration operations (See col. 8, lines 1-12 and figures 18 and 19). However, Dean et al fails to teach wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target station inserts its identification during registration operations.

Baker et al teaches wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target station inserts its identification during registration operations (See col. 14, lines 22-41).
It would have been obvious to one with ordinary skill in the art at the time invention was made to incorporate wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate

identification during registration operations as taught by Baker et al in the claimed invention of Dean et al in view of Shrader et al in order to simplify the enterprise burden by limiting the client development side to screen layouts and data presentation tools that use a common interface enabled by the web browser (See col. 2, lines 50-57).

b. As per claim 19, 26 and 31, Dean et al teaches distributing comprises the step of distributing the file packet to a plurality of target stations each having an identification which may be inserted into the variable field at the target station (See col. 8, lines 1-12 and figures 18 and 19).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djenane M Bayard whose telephone number is (571) 272-3878. The examiner can normally be reached on Monday- Friday 5:30 AM- 3:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Djenane Bayard

Patent Examiner

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER

Notice of References Cited	Application/Control No. 09/870,608	Applicant(s)/Patent Under Reexamination COX ET AL.	
	Examiner Djenane M Bayard	Art Unit 2141	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-2003/0110241	06-2003	Cheng et al.	709/221
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes

Application No.	Applicant(s)	
09/870,608	COX ET AL.	
Examiner	**Art Unit**	
Djenane M Bayard	2141	

SEARCHED			
Class	Subclass	Date	Examiner
709	221	3/31/2005	DB
717	171	3/31/2005	DB

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
east	3/31/2005	DB

Index of Claims

Application No.	Applicant(s)	
09/870,608	COX ET AL.	
Examiner	**Art Unit**	
Djenane M Bayard	2141	

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	287	(software with distribution).ab.	US-PGPUB; USPAT	OR	ON	2004/08/25 08:03
S2	361	(source with directory) and (target with directory)	US-PGPUB; USPAT	OR	ON	2004/08/25 08:03
S3	62	tivoli with server	US-PGPUB; USPAT	OR	ON	2004/08/25 08:03
S4	165	(application with network with distribution) and (java with applet)	US-PGPUB; USPAT	OR	ON	2004/08/25 08:04
S5	57	(java with applet with url) and (software with distribution)	US-PGPUB; USPAT	OR	ON	2004/08/25 08:04
S6	1	("6202206").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:49
S7	1	("20020186705").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:51
S8	1	("20040083299").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:51
S9	1	("6430233").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:52
S10	1	("6101616").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/17 16:52
S11	1	("6424650").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:39
S12	1	("6202206").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:42
S13	1	("5867713").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:42
S14	23	("5867713").URPN.	USPAT	OR	ON	2005/03/18 16:44
S15	1	("20020032763").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:48
S16	1	("6510466").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/18 16:46
S17	6	("6510466").URPN.	USPAT	OR	ON	2005/03/18 16:47
S18	1	"20020032763".pn. and (target with demand)	US-PGPUB; USPAT	OR	ON	2005/03/18 16:49
S19	6	("6510466").URPN.	USPAT	OR	ON	2005/03/18 17:13

S20	36	("5263165" | "5440739" | "5554979" | "5634010" | "5655081" | "5680615" | "5689709" | "5708709" | "5745879" | "5748896" | "5764887" | "5771354" | "5778368" | "5809251" | "5813009" | "5845077" | "5848243" | "5875327" | "5881236" | "5911066" | "5933601" | "6070190" | "6098067" | "6105063" | "6105066" | "6105069" | "6108712" | "6115040" | "6158010" | "6175363" | "6175832" | "6182142" | "6189051" | "6192414" | "6195432" | "6202206").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:14
S21	78	("5845077").URPN.	USPAT	OR	ON	2005/03/18 17:28
S22	42	("5204897" | "5260999" | "5263165" | "5440739" | "5554979" | "5634010" | "5655081" | "5671412" | "5680615" | "5689708" | "5708709" | "5745879" | "5748896" | "5752041" | "5764887" | "5771354" | "5778368" | "5809251" | "5813009" | "5845065" | "5845077" | "5848243" | "5875327" | "5881236" | "5911066" | "5933601" | "6021438" | "6070190" | "6098067" | "6105063" | "6105066" | "6105069" | "6108712" | "6115040" | "6158010" | "6175363" | "6175832" | "6182142" | "6189051" | "6192414" | "6195432" | "6202206").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:35
S23	0	("6728766").URPN.	USPAT	OR	ON	2005/03/18 17:37
S24	38	("4885770" | "5263165" | "5440739" | "5554979" | "5634010" | "5655081" | "5680615" | "5689708" | "5745879" | "5748896" | "5764887" | "5771354" | "5778368" | "5809251" | "5813009" | "5845077" | "5848243" | "5875327" | "5881236" | "5889942" | "5905492" | "5911066" | "5933601" | "6003083" | "6023273" | "6070190" | "6098067" | "6105063" | "6105066" | "6105069" | "6108712" | "6115040" | "6158010" | "6175363" | "6175832" | "6189051" | "6192414" | "6195432").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:47

S25	667	((client with regist$6) or (client with authenticat$3) or (client with login$3)) same ((software with download$3) or (software with updat$3) or (software with upload$3) or (data with transferr$3))	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:50
S26	220	((client with regist$6) or (client with authenticat$3) or (client with login$3)) same ((software with download$3) or (software with updat$3) or (software with upload$3) or (data with transferr$3))and "709"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:51
S27	556	((client with regist$6) or (client with authenticat$3) or (client with login$3)) same ((software with download$3) or (software with updat$3) or (software with upload$3) or (software with distribut$3))	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:51
S28	220	((client near2 regist$6) or (client near2 authenticat$3) or (client near2 login$3)) same ((software with download$3) or (software with updat$3) or (software with upload$3) or (software with distribut$3))	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:52
S29	88	((client near2 regist$6) or (client near2 authenticat$3) or (client near2 login$3)) same ((software near2 download$3) or (software near2 updat$3) or (software near2 upload$3) or (software near2 distribut$3))	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 17:55
S30	1	"20020032763".pn. and registration	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 20:42
S31	1013	(regist$6 with application with distribut$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 18:01
S32	1335694	(regist$6 with application with programwith distribut$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 18:01
S33	87	(regist$6 with application with program with distribut$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 18:01
S34	1	"20020032763".pn. and (file with packet)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 20:51

S35	322	(file adj packet)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:05
S36	3	(file adj packet) same application same regist$6	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 20:52
S37	68	(file adj packet) same application	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 20:58
S38	158	(segment with initiat$3 with regist$6)	US-PGPUB; USPAT	OR	ON	2005/03/18 21:03
S39	4	(file adj packet)with regist$6	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:08
S40	1386	server with distribut$3 with regist$6	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:08
S41	934	server with distribut$3 with regist$6 with (application or software or data or information)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:09
S42	982	server with distribut$3 with regist$6 with (application or software or data or information or file)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:10
S43	0	server with distribut$3 with regist$6 with (application or software or data or information or file) with packet with segment	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:10
S44	255	server with distribut$3 with regist$6 with (application or software or data or information or file) and "709"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:11
S45	420	server with distribut$3 with regist$6 with (application or software or data or information or file) with (user or client)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:11
S46	128	server with distribut$3 with regist$6 with (application or software or data or information or file) with (user or client) with network	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/18 21:12
S47	1	(shared adj directory) with (application with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:46
S48	2	(shared with directory) with (application with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:47
S49	3	(shar$3 with directory) with (application with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:47
S50	2041	(application with test$3).ab.	US-PGPUB; USPAT	OR	ON	2005/03/19 10:48
S51	11	(application with test$3).ab. and (interoperability with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:52

S52	140	(interoperability with test$3)	US-PGPUB; USPAT	OR	ON	2005/03/19 10:52
S53	4	(interoperability with test$3)and ((directory with shar$3) or (area with shar$3))	US-PGPUB; USPAT	OR	ON	2005/03/19 10:59
S54	1	("6401135").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/19 11:02
S55	1	("6260065").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/19 11:03
S56	1	("6253368").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/19 11:03
S57	4	("6253368").URPN.	USPAT	OR	ON	2005/03/19 11:19
S58	0	("6401135").URPN.	USPAT	OR	ON	2005/03/19 11:20
S59	8	("4617663" | "5218605" | "5390325" | "5481721" | "5485617" | "5615333" | "5715373" | "5751941").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/19 11:37
S60	140	interoperability with test$3	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/19 11:37
S61	946	(software with distribut$3).ab.	US-PGPUB; USPAT	OR	ON	2005/03/31 14:49
S62	7	(software with distribut$3 with regist$4).ab.	US-PGPUB; USPAT	OR	ON	2005/03/31 14:50
S63	7	"6510466"	US-PGPUB; USPAT	OR	ON	2005/03/31 15:43
S64	6	("6510466").URPN.	USPAT	OR	ON	2005/03/31 15:09
S65	36	("5263165" | "5440739" | "5554979" | "5634010" | "5655081" | "5680615" | "5689709" | "5708709" | "5745879" | "5748896" | "5764887" | "5771354" | "5778368" | "5809251" | "5813009" | "5845077" | "5848243" | "5875327" | "5881236" | "5911066" | "5933601" | "6070190" | "6098067" | "6105063" | "6105066" | "6105069" | "6108712" | "6115040" | "6158010" | "6175363" | "6175832" | "6182142" | "6189051" | "6192414" | "6195432" | "6202206").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:13
S66	264	(software adj2 distribut$3) same (regist$3 or logging or authenticat$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:15
S67	0	(software adj2 distribut$3) same (regist$3 or logging or authenticat$3) <= "19991118"	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:15

S68	0	(software adj2 distribut$3) same (regist$3 or logging or authenticat$3)and @pd<= "19991118"	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:15
S69	264	(software adj2 distribut$3) same (regist$3 or logging or authenticat$3)	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 15:32
S70	1	("5825877").PN.	US-PGPUB; USPAT	OR	OFF	2005/03/31 15:32
S71	62	("6049671").URPN.	USPAT	OR	ON	2005/03/31 15:33
S72	0	"6202206".pn. and (logging or regist$4 or authenticat$3)	US-PGPUB; USPAT	OR	ON	2005/03/31 15:49
S73	21	(segment with initiat$3 with registration)	US-PGPUB; USPAT	OR	ON	2005/03/31 15:49
S74	40	(logging with software with download$3)	US-PGPUB; USPAT	OR	ON	2005/03/31 16:05
S75	4693	(data or software or information or application) with (distribut$3 or transfer$4) with (logging or authenticat$3)	US-PGPUB; USPAT	OR	ON	2005/03/31 16:06
S76	836	(data or software or information or application) with (distribut$3 or transfer$4) with (logging or authenticat$3) and "709"/$3.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S77	836	(data or software or information or application) with (distribut$3 or transfer$4) with (logging or authenticat$3) and "709"/$.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S78	447	(data or software or information or application) with (distribut$3) with (logging or authenticat$3) and "709"/$.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S79	339	(software or information or application) with (distribut$3) with (logging or authenticat$3) and "709"/$.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S80	189	(software or application) with (distribut$3) with (logging or authenticat$3) and "709"/$.ccls.	US-PGPUB; USPAT	OR	ON	2005/03/31 16:07
S81	1	("2003/0110241").URPN.	USPAT	OR	ON	2005/03/31 16:10
S82	18	("20020152290" | "20030110248" | "5396613" | "5630116" | "5634008" | "5696486" | "5919247" | "5933647" | "5987497" | "6031533" | "6035423" | "6110228" | "6389426" | "6526447" | "6581092" | "6591296" | "6604237" | "6704782").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/03/31 16:14

S83	1	"20030110241".pn. and (authenticat$3 or logging or regist$4)	US-PGPUB; USPAT	OR	ON	2005/03/31 16:44

2141/gpw

Attorney Docket No. 5577-130DV PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Cox et al.
Application Serial No.: 09/870,608
Filed: May 31, 2001
For: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

Examiner: Djenane M. Bayard
Group Art Unit: 2141
Confirmation No.: 9481

December 7, 2004

Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Certificate of Mailing under 37 CFR 1.8
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on December 7, 2004

Carey Gregory

AMENDMENT

Sir:

Applicants provide the present response to address the issues raised in the Office Action mailed September 8, 2004 ("the Office Action").

If any extension of time for the accompanying response or submission is required, Applicant requests that this be considered a petition therefor. The Commissioner is hereby authorized to charge any additional fee, which may be required, or credit any refund, to Deposit Account No. 09-0461.

In the Claims:

1-14. (Canceled)

15. (Currently amended) A method for distribution of application programs to a target on-demand server ~~station~~ on a network comprising the steps executed on a centralized network management server coupled to the network of:

providing an application program to be distributed to the network management server;

specifying a source directory and a target directory for distribution of the application program;

preparing a file packet associated with the application program and including a segment configured to initiate registration operations for the application program at the target on-demand server ~~station~~; and

distributing the file packet to the target on-demand server to make the application program available for use by a user at a client ~~station~~.

16. (Original) A method according to Claim 15 wherein the network management server is a Tivoli™ server.

17. (Currently amended) A method according to Claim 16 wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target on-demand server ~~station~~ to install and register the file packet associated with the application program on the target on-demand server in a manner that makes it recognized and available to the user at the client.

18. (Currently amended) A method according to Claim 16 where the application program is provided as a JAVA™ applet and wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field

into which the target on-demand server ~~station~~ inserts its identification during registration operations.

19. (Currently amended) A method according to Claim 18 wherein the step of distributing comprises the step of distributing the file packet to a plurality of target on-demand servers ~~stations~~ each having an identification which may be inserted into the variable field at the target on-demand server ~~station~~.

20. (Currently amended) An application program distribution system for distributing application programs to a target on-demand server ~~stations~~ on a network executing on a centralized network management server coupled to the network, the system comprising:

means for providing to the network management server an application program to be distributed to remote servers;

means for specifying a source directory and a target directory for distribution of the application program;

means for preparing a file packet associated with the application program, the file packet including a segment configured to initiate registration operations for the application program at the target on-demand server ~~stations~~; and

means for distributing the file packet to the target on-demand server ~~stations~~ to make the application program available for use by a user at a client.

21. (Canceled)

22. (Currently amended) A computer program product for distributing application programs to a target on-demand server ~~stations~~ on a network executing on a centralized network management server coupled to the network, the computer program product comprising:

a computer-readable storage medium having computer-readable program code means

embodied in said medium, said computer-readable program code means comprising:

computer readable program code means for providing to the network management server an application program to be distributed to remote servers;

computer readable program code means for specifying a source directory and a target directory for distribution of the application program;

computer readable program code means for preparing a file packet associated with the application program, the file packet including a segment configured to initiate registration operations for the application program at the target on-demand server ~~stations~~; and

computer readable program code means for distributing the file packet to the target on-demand server ~~stations~~ to make the application program available for use by a user at a client.

23. (Canceled).

24. (Previously presented) A system according to Claim 20 wherein the network management server is a Tivoli™ server.

25. (Currently amended) A system according to Claim 24 wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target on-demand server ~~stations~~ to install and register the file packet associated with the application program on the target on-demand server in a manner that makes it recognized and available to the user at the client.

26. (Currently amended) A system according to Claim 24 wherein the application program is provided as a JAVA™ applet and wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target on-demand server ~~stations~~ inserts its identification during registration operations.

27. (Currently amended) A system according to Claim 26 wherein the means for distributing comprises means for distributing the file packet to a plurality of target on-demand servers ~~stations~~ each having an identification which may be inserted into the variable field at the target on-demand server ~~stations~~.

28. (Previously presented) A computer program product according to Claim 22 wherein the network management server is a Tivoli™ server.

29. (Currently amended) A computer program product according to Claim 28 wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target on-demand server ~~stations~~ to install and register the file packet associated with the application program on the target on-demand server in a manner that makes it recognized and available to the user at the client.

30. (Currently amended) A computer program product according to Claim 28 wherein the application program is provided as a JAVA™ applet and wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target on-demand server ~~stations~~ inserts its identification during registration operations.

31. (Currently amended) A computer program product according to Claim 30 wherein the computer readable program code means for distributing comprises computer readable program code means for distributing the file packet to a plurality of target on-demand servers ~~stations~~ each having an identification which may be inserted into the variable field at the target on-demand server ~~stations~~.

32. (New) A method according to Claim 15 wherein distributing the file packet is

preceded by executing a pre-distribution program at the network management server.

33. (New) A method according to Claim 32 wherein executing a pre-distribution program includes determining an environment for the application program that exists on the target on-demand server.

34. (New) A method according to Claim 33 wherein preparing a file packet includes including a selected version of an application launcher in the file packet, the selected version being selected based on the determined environment.

35. (New) A method according to Claim 15 wherein distributing the file packet is followed by executing an after-distribution program at the target on-demand server.

36. (New) A method according to Claim 17 wherein registration operations include maintaining at the target on-demand server a profile management list identifying application programs available for use by the user and wherein the method further comprises updating the profile management list at the target on-demand server to make the application program available for use by the user.

37. (New) A method according to Claim 36 wherein the profile management list includes a designation of authorized users for application programs identified in the profile management list.

REMARKS

Applicants appreciate the thorough review of the present application as indicated by the Office Action. Independent method Claim 15 and corresponding system and computer program product Claims 20 and 22 have been amended above to clarify that the target station is an on-demand server and that the file packet is distributed to "make the application program available for use by a user at a client," as described, for example, at page 28, lines 3-4 of the present application. In addition, dependent Claims 17, 25 and 29 have been amended to clarify that the call to the import program executing on the target on-demand server is "to install and register the file packet associated with the application program on the target on-demand server in a manner that makes it recognized and available to the user at the client." Such recitations are described in the present application, for example, at page 28, lines 3-4. New Claims 32 to 37 have been added, which include additional recitations, support for which is found generally at pages 28-33 of the present application.

Applicants submit that the claims as amended are patentable over the cited art. Accordingly, Applicants request entry of this amendment and passing of this application to issuance.

Independent Claims 15, 20 and 22 stand rejected under 35 U.S.C. § 103 over United States Patent No. 6,202,206 to Dean et al. ("Dean") in view of United States Patent No. 5,867,713 to Shrader et al. ("Shrader"). Office Action, p. 2. The remaining claims stand rejected as obvious over Dean and Shrader in combination with one or more of United States Patent No. 5,996,012 to Jarriel ("Jarriel") and United States Patent No. 6,611,498 to Baker et al. ("Baker").

The Independent Claims Are Patentable Over the Cited Art:

Independent method Claim 15 recites:

> A method for distribution of application programs **to a target on-demand server** on a network comprising the steps executed on a centralized network management server coupled to the network of:
>
> providing an application program to be distributed to the network management server;
>
> specifying a source directory and a target directory for distribution of the

application program;

preparing a file packet associated with the application program and including a segment configured to initiate registration operations for the application program at the target on-demand server; and

distributing the file packet to the target on-demand server to make the application program available for use by a user at a client.

Independent system and computer program product Claims 20 and 22 contain corresponding recitations. Applicants submit that at least the highlighted portions of Claim 15 are not disclosed or suggested by the cited prior art.

As is clear from the highlighted recitations of Claim 15, the claimed embodiments of Claim 15 are directed to distribution of application programs from a network management computer to on-demand server(s) and to registering the application programs at the on-demand server(s) so that they will be available to users accessing the programs from client computers.

The cited portions of Dean relied on in the rejection of Claims 15, 20 and 22 read as follows:

> The present invention uses the data files and other information developed during the preliminary processing which involved the primary server computer alone as covered by those two copending patent applications. The primary server loads all of the selected application programs onto their respective server and client computers and completes the network configuration under the control of the profile data file which is stored in the primary server computer. All of the selected programs to be installed throughout the network of server and client computers are first loaded into the primary server computer. Then, there is run the sequence of the keystroke and cursor entries required to install said selected components and programs on said server and client computers as recorded in a data file representative of said sequence of entries stored in said primary server computer. As a result, the programs and components are automatically loaded into the respective server and client computers in said network requiring said programs and components. The programs thus distributed include the operating systems for the

Dean, Col. 2, lines 50-67); and

> Accordingly, the copending Dean et al. application covers the general concept of making all of the entries for installations for all of the computers in the network through a primary server so that all of the network installations are under the control of the primary server. These are recorded and stored as keystrokes and

> cursor selections in a data file profile as covered in the copending Bezanson et al. patent application, which is subsequently used to control the configuration of the network and installations and settings on all of the computers in the network. The present patent application covers automatically and, wherever possible, simultaneously configuring the network and making all installations and settings on all of the computers in the network via the primary server computer based upon the previously recorded stored profile with application programs which have been previously loaded into the primary server computer

(Dean, Col. 5, lines 25-40).

Applicants submit that, while there is a discussion of distribution of application programs from a primary server computer to clients and servers in these sections, there is no discussion of providing a file packet to target on-demand servers to initiate registration operations to make an application program available to a user at a client. Similarly, the secondary references contain no such disclosure or suggestion. Accordingly, the rejections of independent Claims 15, 20 and 22 should be withdrawn for at least these reasons.

The Dependent Claims:

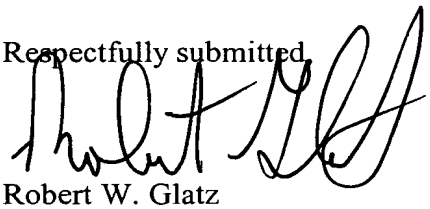
Each of the dependent claims is patentable at least based on the patentability of the independent claim from which it depends as discussed above. In addition, various of the dependent claims are separately patentable. For example, contrary to the assertion in the Office Action, none of the references disclose or suggest the import program and registration operations for making an application program available on a target on-demand server so that it is "recognized and available to the user at the client" as recited in Claims 17, 25 and 29. With respect to Claims 18, 26 and 30, Applicants submit that, while the secondary references may disclose some of the utilized terms of these claims, they fail to disclose the particulars of the recited use of a URL for registration of an application program and insertion of an identification in a variable field of the segment of the file packet configured to initiate the registration operations to make the application program available to a user at a client as recited in these claims. Each of new Claims 32-37 is also separately patentable based on the inclusion of recitations therein not found in the cited prior art. Accordingly, the dependent claims are also separately patentable and should be allowed for at least these additional

reasons.

CONCLUSION

Applicants respectfully submit that, for the reasons discussed above, the references cited in the present rejections do not disclose or suggest the present invention as claimed. Accordingly, Applicants respectfully request allowance of all the pending claims and passing this application to issue.

Respectfully submitted,



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395528

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2000

Application or Docket Number
~~53777~~ 09/872088

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	15	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	15 minus 20=	* ∅
INDEPENDENT CLAIMS	3 minus 3 =	* ∅
MULTIPLE DEPENDENT CLAIM PRESENT		☐

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE ☐ OR OTHER THAN SMALL ENTITY

RATE	FEE		RATE	FEE
BASIC FEE	355.00	OR	BASIC FEE	710.00
X$ 9=		OR	X$18=	—
X40=		OR	X80=	—
+135=		OR	+270=	—
TOTAL		OR	TOTAL	710

CLAIMS AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 15	Minus	** 20	= —
Independent	* 3	Minus	*** 3	= —
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY OR OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	—
X40=		OR	X80=	—
+135=		OR	+270=	—
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 21	Minus	** 15	=
Independent	* 3	Minus	*** 3	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

BEST AVAILABLE COPY

AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

FORM PTO-875
(Rev. 8/00)

Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
*U.S. GPO: 2000-460-706/30103

2141/gpw

Attorney Docket No. 5577-130DV PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Cox et al.
Application Serial No.: 09/870,608
Filed: May 31, 2001
For: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

Examiner: Djenane M. Bayard
Group Art Unit: 2141
Confirmation No.: 9481

December 7, 2004

Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Certificate of Mailing under 37 CFR 1.8
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on December 7, 2004

Carey Gregory

AMENDMENT

Sir:

Applicants provide the present response to address the issues raised in the Office Action mailed September 8, 2004 ("the Office Action").

If any extension of time for the accompanying response or submission is required, Applicant requests that this be considered a petition therefor. The Commissioner is hereby authorized to charge any additional fee, which may be required, or credit any refund, to Deposit Account No. 09-0461.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,608	05/31/2001	David E. Cox	5577-130DV	9481

20792 7590 09/08/2004

MYERS BIGEL SIBLEY & SAJOVEC
PO BOX 37428
RALEIGH, NC 27627

EXAMINER	
BAYARD, DJENANE M	
ART UNIT	**PAPER NUMBER**
2141	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/870,608	COX ET AL.	
	Examiner	Art Unit	
	Djenane M Bayard	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 May 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-20,22 and 24-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-20,22 and 24-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/31/01, 12/10/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 15, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,202,206 to Dean et al. in view of U.S. Patent No. 5,867,713 to Shrader et al.

a. AS per claims 15, 20 and 22, Dean et al teaches a method for distribution of application programs to a target station on a network comprising the steps executed on a centralized network management server coupled to the network of: providing an application program to be distributed to the network management server (See col. 2, lines 50-67); preparing a file packet associated with the application program and including a segment configured to initiate registration operations for the application program at the target station (See col. 5, lines 25-40); and distributing the file packet to the target station (see col. 2, lines 50-67). However, Dean et al fails to teach specifying a source directory and a target directory for distribution of the application program.

Shrader et al teaches an installation plan object for installing application s in a network. Furthermore, Shrader et al teaches specifying a source directory and a target directory for distribution of the application program (See col. 2, lines 59-67) col. 17 lines 45-61).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate specifying a source directory and a target directory for distribution of the application program as taught by Shrader et al in order to determine if the file directories and files objects are valid and accessible on the network (See col. 2, lines 61-62).

3. Claims 16-17, 24-25 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,202,206 to Dean et al. in view of U.S. Patent No. 5,867,713 to Shrader et al as applied to claim 15, 20 and 22 above, and further in view of U.S. Patent No. 5,996,012 to Jarriel.

a. As per claims 16, 24 and 28, Dean et al in view of Shrader et al teaches the claimed invention as described above. However, Dean et al in view of Shrader et al fails to wherein the network management server is a Tivoli. server.

Jarriel teaches wherein the network management server is a Tivoli server (See col. 1, lines 12-35).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the network management server is a Tivoli ser as taught by Jarriel in the claimed invention of Dean et al in view of Shrader et al in order to permit remote site management and operation (See col. 1, lines 12-35).

b. As per claim 17, 25 and 29, Dean et al in view of Shrader et al teaches the claimed invention as described above. Furthermore, Dean et al teaches wherein the segment configured

to initiate registration operations includes an import data file and a call to an import program executing on the target station (See col. 2, lines 50-67).

4. Claims 18-19, 26-27 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,202,206 to Dean et al. in view of U.S. Patent No. 5,867,713 to Shrader et al as further in view of U.S. Patent No. 5,996,012 to Jarriel and further in view of U.S. Patent No. 6,611,498 to Baker et al.

a. As per claims 18, 26 and 30, Dean et al in view of Shrader teaches the claimed invention as described above. Furthermore, Dean et al teaches wherein the segment configured to initiate registration operations includes a variable field into which the target station inserts its identification during registration operations (See col. 8, lines 1-12 and figures 18 and 19). However, Dean et al fails to teach wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target station inserts its identification during registration operations.

Baker et al teaches wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target station inserts its identification during registration operations (See col. 14, lines 22-41).

It would have been obvious to one with ordinary skill in the art at the time invention was made to incorporate wherein the application program is registered based on a Universal Resource

Locator (URL) address accessible to a browser application and wherein the segment configured to initiate identification during registration operations as taught by Baker et al in the claimed invention of Dean et al in view of Shrader et al in order to simplify the enterprise burden by limiting the client development side to screen layouts and data presentation tools that use a common interface enabled by the web browser (See col. 2, lines 50-57).

b. As per claim 19, 26 and 31, Dean et al teaches distributing comprises the step of distributing the file packet to a plurality of target stations each having an identification which may be inserted into the variable field at the target station (See col. 8, lines 1-12 and figures 18 and 19).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,919,247 to Van Hoff et al teaches a method for the distribution of code and data updates.

U.S. Patent No. 6,131,112 to Lewis et al teaches a method and apparatus for integrated network and system management.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djenane M Bayard whose telephone number is (703) 305-6606. The examiner can normally be reached on 7:00 AM-4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (703) 305-4003. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Djenane Bayard

Patent Examiner

Paul Kang

Primary Patent Examiner

Notice of References Cited	Application/Control No. 09/870,608	Applicant(s)/Patent Under Reexamination COX ET AL.	
	Examiner Djenane M Bayard	Art Unit 2141	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,996,012	11-1999	Jarriel, Stuart L.	709/226
	B	US-5,867,713	02-1999	Shrader et al.	717/176
	C	US-6,006,035	12-1999	Nabahi, Narimane	717/175
	D	US-5,919,247	07-1999	Van Hoff et al.	709/217
	E	US-6,131,112	10-2000	Lewis et al.	709/207
	F	US-6,202,206	03-2001	Dean et al.	717/177
	G	US-6,611,498	08-2003	Baker et al.	370/252
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Attorney Docket Number 5577-130DV	Serial No. 09/870,608
LIST OF DOCUMENTS CITED BY APPLICANT (Use several sheets if necessary)	Applicants: Cox et al.	
	Filing Date: May 31, 2001	Group 2155

U. S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
D.B.	1	5,708,709	1/13/98	Rose	380	4	
D.B.	2	6,182,142	1/30/01	Win et al.	709	229	

Djenane Bayard 8/23/04

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation Yes | No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Attorney Docket Number 5577-130DV	Serial No. To Be Assigned
LIST OF DOCUMENTS CITED BY APPLICANT (Use several sheets if necessary)	Applicant Cox, et al.	
	Filing Date Concurrently Herewith	Group Unknown

U. S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
D.B.	1	6,105,066	8/2000	Hayes, Jr.	709	226	
D.B.	2	6,108,712	8/2000	Hayes, Jr.	709	246	
D.B.	3	6,105,069	8/2000	Franklin et al.	709	229	
	4	5,745,879	4/98	Wyman	705	1	
	5	6,175,363	1/01	Williams et al.	345	334	
	6	5,848,243	12/98	Kulkarni et al	709	224	
	7	5,911,066	6/99	Williams et al.	709	300	
	8	6,175,832	1/01	Luzzi et al.	707	10	
	9	5,680,615	10/97	Marlin et al.	707	103	
	10	5,875,327	2/99	Brandt et al.	713	1	
	11	6,070,190	5/00	Reps et al.	709	224	
	12	6,105,063	8/00	Hayes, Jr.	709	223	
	13	5,440,739	8/95	Beck et al.	70-	221	
	14	5,748,896	5/5/98	Daly et al.	709	223	
	15	5,881,236	3/9/99	Dickey	709	221	
	16	5,845,077	12/1/98	Fawcett	709	221	
	17	5,778,368	7/7/98	Hogan et al.	707	10	
	18	5,263,165	11/93	Janis	395	725	
	19	5,689,709	11/97	Regnier et al.	709	302	
	20	5,764,887	6/98	Kells et al.	713	200	
	21	5,771,354	11/93	Crawford	709	229	
D.B.	22	5,813,009	7/95	Johnson et al.	707	100	
D.B.	23	5,554,979	9/10/96	Kohar et al.	340	825.72	
D.B.	24	6,192,414	2/20/01	Horn	709	239	

FOREIGN PATENT DOCUMENTS

	Document	Date	Country	Class	Subclass	Translation

EXAMINER _____ DATE CONSIDERED

*EXAMINER Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office	Attorney Docket Number 5577-130DV	Serial No. To Be Assigned
LIST OF DOCUMENTS CITED BY APPLICANT (Use several sheets if necessary)	Applicant Cox, et al.	
	Filing Date Concurrently Herewith	Group Unknown

		Number					Yes | No
D.B.	25	9850853	11/12/98	PCT	G06F	9/44	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

D.B.	26	"A Common Desktop Environment for Platforms Based on the UNIX Operating System," By B.E. Cripe, J.A. Brewster, and D.E. Laursen, Hewlett-Packard Journal, Vol. 47, No. 2, April 1, 1996, pp. 6-14
D.B.	27	"Administration of Graphic User Interface and Multimedia Objects Using Cooperating Processing," IBM Technical Disclosure Bulletin, Vol. 37, No. 9, September 1, 1994, pp. 675-678
D.B.	28	http://nf/pdc97/profiles_and_policies.htm "Guide to Microsoft Windows NT 4.0 Profiles and Policies" Pages 1-76
D.B.	29	http://www/ietf.org/htlm.charters/acap-charter.html "Application Configuration Access Protocol (acap)," 68 pages
D.B.	30	IBM Network Station Manager for Windows NT Server 4.0, Chapter 5. Using the IBM Network Station Manager, Pages 5-1 to 5-15
D.B.	31	http://www.software.ibm.com/os/warp/library/sq202822.htm, "WorkSpace on-Demand Handbook," Chapters 2.3.1; 6.2; 6.3; 6.3.1; 6.3.3; 6.5
D.B.	32	http://www.triteal.com/SoftNC, Java Desktop Environment from Triteal," pages 1-2
D.B.	33	http://java.sun.com/products/hot-javaviews/admin.html, "HotJava Views," pages 1-24
D.B.	34	http://esuite.lotus.com/eSuite/eSuite, "The Right Work Environment for Network Centric Computing," 24 pages

EXAMINER Djenane Bayard DATE CONSIDERED 8/23/04

*EXAMINER Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Index of Claims

Application No.	Applicant(s)	
09/870,608	COX ET AL.	
Examiner	**Art Unit**	
Djenane M Bayard	2141	

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claim		Date
Final	Original	8/25/04
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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

BIBDATASHEET

CONFIRMATION NO. 9481

Bib Data Sheet

SERIAL NUMBER	FILING DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
09/870,608	05/31/2001 RULE	709	2141	5577-130DV

APPLICANTS

David E. Cox, Raleigh, NC;

Kent F. Hayes JR., Chapel Hill, NC;
David B. Lindquist, Raleigh, NC;John R. McGarvey, Apex, NC;
Abdi Salahshour, Raleigh, NC;

** CONTINUING DATA ********** Yes DB

This application is a DIV of 09/211,528 12/14/1998 PAT 6,510,466 *
(*)Data provided by applicant is not consistent with PTO records.

** FOREIGN APPLICATIONS ********** No DB

IF REQUIRED, FOREIGN FILING LICENSE GRANTED
** 06/15/2001

Foreign Priority claimed	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ yes ☒ no	NC	9	15	3
35 USC 119 (a-d) conditions met ☐ yes ☐ no ☐ Met after Allowance				
Verified and Acknowledged Examiner's Signature: Elmarie Baujan Initials: DB				

ADDRESS
20792
MYERS BIGEL SIBLEY & SAJOVEC
PO BOX 37428
RALEIGH , NC
27627

TITLE
Methods, systems and computer program products for distribution of application programs to a target station on a network

FILING FEE RECEIVED 710	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

Search Notes

Application No.	Applicant(s)	
09/870,608	COX ET AL.	
Examiner	**Art Unit**	
Djenane M Bayard	2141	

SEARCHED

Class	Subclass	Date	Examiner
709	207	8/23/2004	DB
709	217	8/23/2004	DB
709	226	8/24/2004	DB
717	11	8/24/2004	DB

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)

	DATE	EXMR
East	8/23/2004	DB

L Number	Hits	Search Text	DB	Time stamp
1	287	(software with distribution).ab.	USPAT; US-PGPUB	2004/08/25 08:03
2	361	(source with directory) and (target with directory)	USPAT; US-PGPUB	2004/08/25 08:03
3	62	tivoli with server	USPAT; US-PGPUB	2004/08/25 08:03
4	165	(application with network with distribution) and (java with applet)	USPAT; US-PGPUB	2004/08/25 08:04
5	57	(java with applet with url) and (software with distribution)	USPAT; US-PGPUB	2004/08/25 08:04

2155
#

Attorney's Docket No. 5577-130DV PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE (DO/EO/US)

In re: Cox et al.
Serial. No. 09/870,608 Group Art Unit: 2155
Filed: May 31, 2001
For: METHODS SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

November 19, 2001

Commissioner for Patents
Washington, DC 20231

SECOND PRELIMINARY AMENDMENT

Sir:

Please amend the above-referenced application as follows. Attached hereto is a marked-up version of the changes made to the specification including the claims by the current amendment. The marked-up version of the changes is captioned "**Version With Markings To Show Changes Made**."

N.E. Already Done on Pre A

IN THE SPECIFICATION:

Please insert at page 1 the following new first paragraph:

+A1

This application is a divisional of Application Serial No. 09/211,528 filed December 14, 1998. This application is related to the following application filed concurrently herewith: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR MANAGEMENT OF CONFIGURABLE APPLICATION PROGRAMS ON A NETWORK, Attorney Docket Number 5577-106. This application is also related to United States Patent Application No. 09/072,597 filed May 5, 1998 and entitled: Client-Server System for Maintaining a user Desktop Consistent with Server Application User Access Permissions which is incorporated herein by reference in its entirety.

REMARKS

This change to the specification is made to change a typographical error in the priority information.

Respectfully submitted,

Robert W. Glatz
Registration No. 36,811

Customer Number:

20792
PATENT TRADEMARK OFFICE

CERTIFICATE OF MAILING

I hereby certify that this paper or fee is being deposited with the United States Postal Service addressed to Commissioner for Patents, Washington, DC 20231on November 19, 2001.

Michele P. McMahan
Date of Signature: November 19, 2001
223065

Version With Markings to Show Changes Made

IN THE SPECIFICATION:

Please insert at page 1 the following new first paragraph:

This application is a divisional of Application Serial No. 09/211,528 filed December [4] 14, 1998. This application is related to the following application filed concurrently herewith: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR MANAGEMENT OF CONFIGURABLE APPLICATION PROGRAMS ON A NETWORK, Attorney Docket Number 5577-106. This application is also related to United States Patent Application No. 09/072,597 filed May 5, 1998 and entitled: Client-Server System for Maintaining a user Desktop Consistent with Server Application User Access Permissions which is incorporated herein by reference in its entirety.

END

215

12/13/01

Attorney's Docket No. 5577-130DV

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Cox et al.
Serial No.: 09/870,608 Group Art Unit: 2155
Filed: May 31, 2001 Examiner: Unknown
For: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

Date: October 18, 2001

Commissioner for Patents
Washington, DC 20231

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

Attached is a list of documents on form PTO-1449 together with a copy of each identified document. It is requested that these documents be considered by the Examiner and officially made of record in accordance with the provisions of 37 C.F.R. § 1.97 and Section 609 of the MPEP.

No item of information contained in this Statement was cited from a foreign patent office in a counterpart foreign application.

Respectfully submitted,

Robert W. Glatz
Registration No. 36,811

Correspondence Address:

20792
PATENT TRADEMARK OFFICE

Certificate of Mailing under 37 CFR 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231. on October 18, 2001.

Michele P. McMahan

Michele P. McMahan
Date of Signature: October 18, 2001
218218

FORM PTO-1449 U.S. Department of Commerce
Patent and Trademark Office

LIST OF DOCUMENTS CITED BY APPLICANT

(Use several sheets if necessary)

Attorney Docket Number	Serial No.
5577-130DV	09/870,608
Applicants: Cox et al.	
Filing Date: May 31, 2001	Group 2155

U. S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	1	5,708,709	1/13/98	Rose	380	4	
	2	6,182,142	1/30/01	Win et al.	709	229	

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation Yes | No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

K1

03CO

Attorney's Docket No. **5577-130DV** PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Cox et al.
Serial No.: 09/870,608
Filed: May 31, 2001
For: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

Date: August 16, 2001

Box Missing Parts
Commissioner for Patents
Washington, DC 20231

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS AND SUBMITTAL OF FORMAL DRAWINGS

Sir:

In response to the Notice to File Corrected Application Papers dated June 18, 2001, enclosed herewith is one set (9 sheets) of new formal drawings. It is requested that these new drawings be substituted for the originally filed informal drawings.

Respectfully submitted,

Robert W. Glatz
Registration No. 36,811

Customer Number:

208356

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Box Missing Parts, Commissioner for Patents, Washington, DC 20231, on August 16, 2001.

Michele P. McMahan Date of Signature: August 16, 2001

UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D C 20231
www.uspto.gov

APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
09/870,608	05/31/2001	David E. Cox	5577-130DV

CONFIRMATION NO. 9481

20792
MYERS BIGEL SIBLEY & SAJOVEC
PO BOX 37428
RALEIGH, NC 27627

FORMALITIES LETTER

OC000000006195116

Date Mailed: 06/18/2001

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

This application has been accorded an Application Number and Filing Date. The application, however, is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given **TWO MONTHS** from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a)

The required item(s) identified below must be timely submitted to avoid abandonment:

- Substitute drawings in compliance with 37 CFR 1.84 because:
  - drawing sheets do not have the appropriate margin(s) (see 37 CFR 1.84(g)). Each sheet must include a top margin of at least 2.5 cm. (1 inch), a left side margin of at least 2.5 cm. (1 inch), a right side margin of at least 1.5 cm. (5/8 inch), and a bottom margin of at least 1.0 cm. (3/8 inch);

A copy of this notice MUST be returned with the reply.

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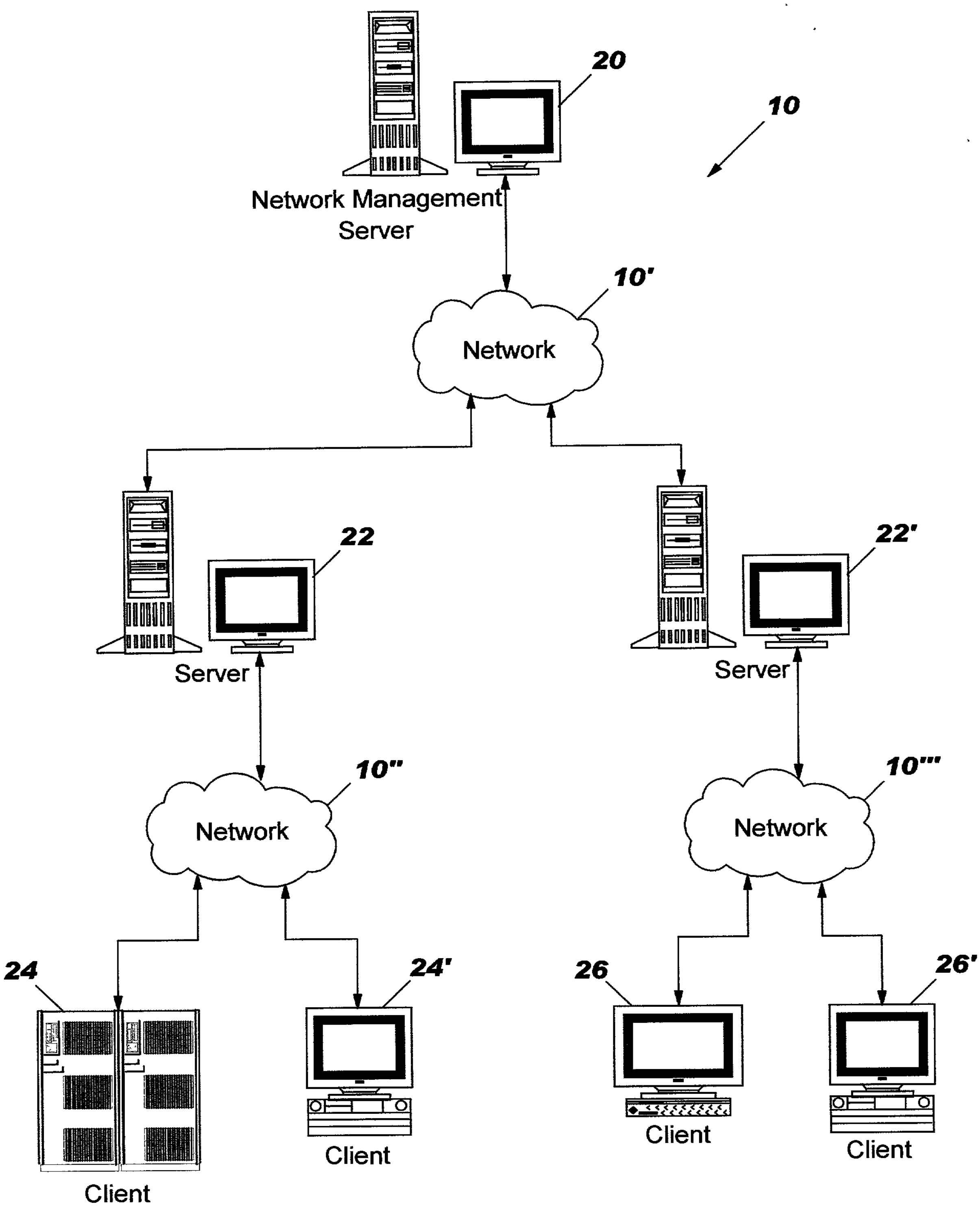
Initial Patent Examination Division (703) 308-1202
PART 2 - COPY TO BE RETURNED WITH RESPONSE

FIG. 1



20
10
Network Management Server
10'
Network
22
22'
Server
Server
10''
10'''
Network
Network
24
24'
26
26'
Client
Client
Client
Client

FIG. 2

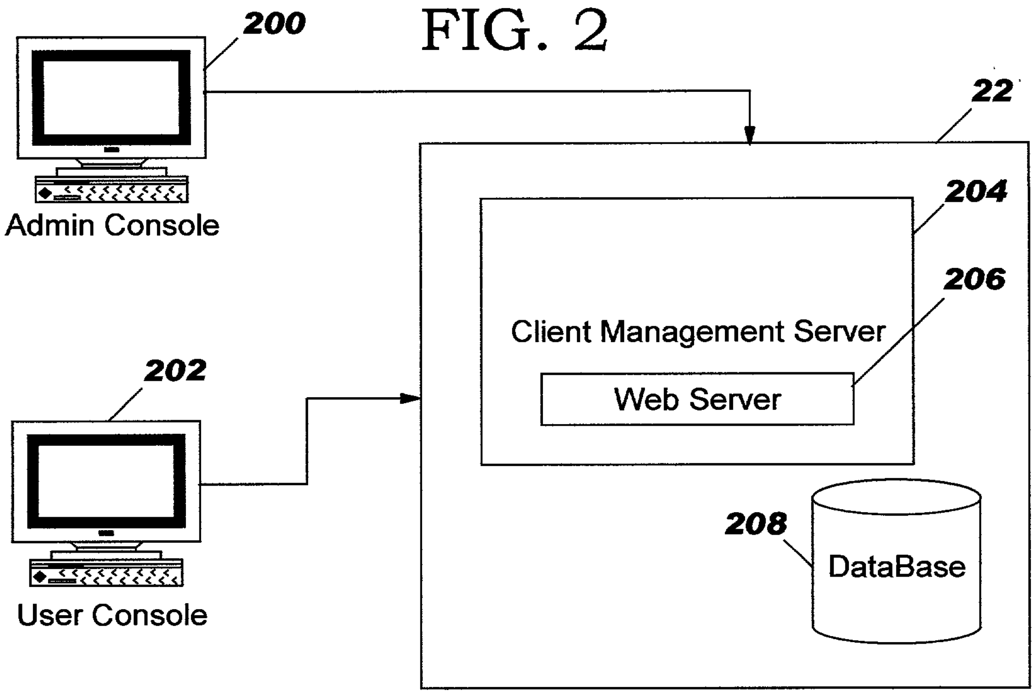

200
Admin Console
202
User Console
22
204
206
Client Management Server
Web Server
208
DataBase

FIG. 3

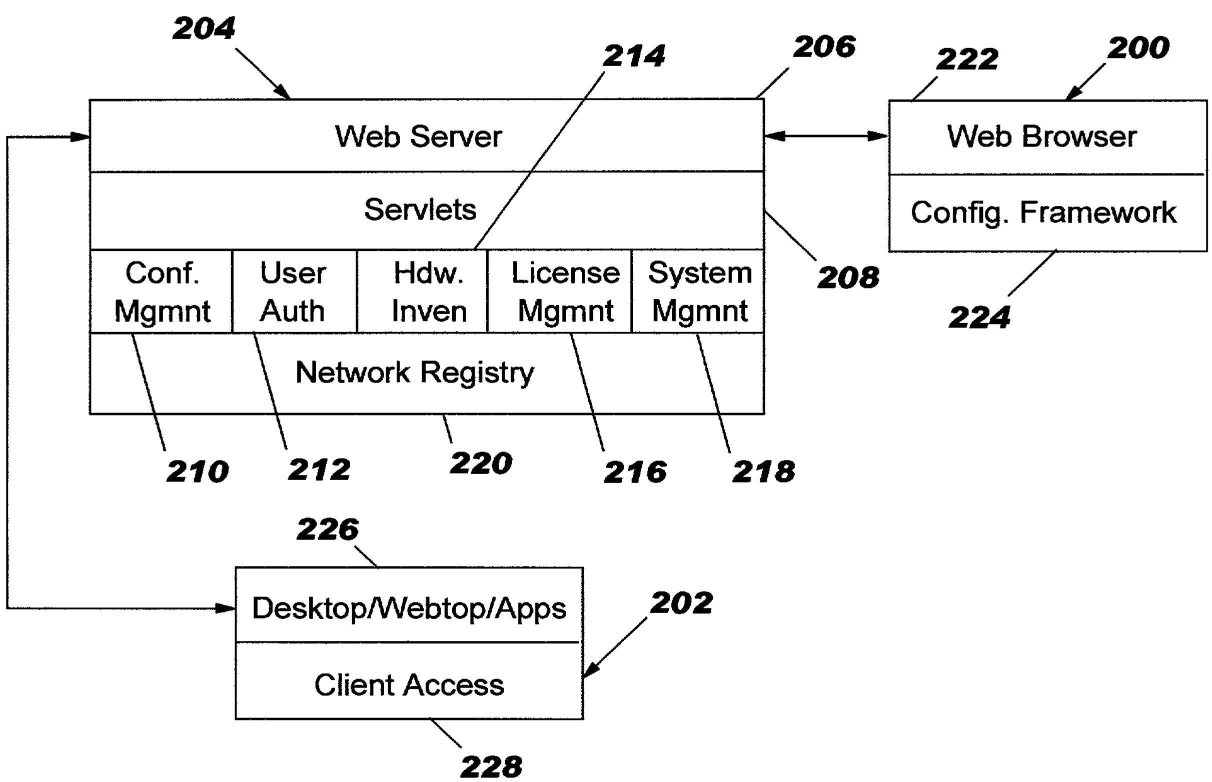
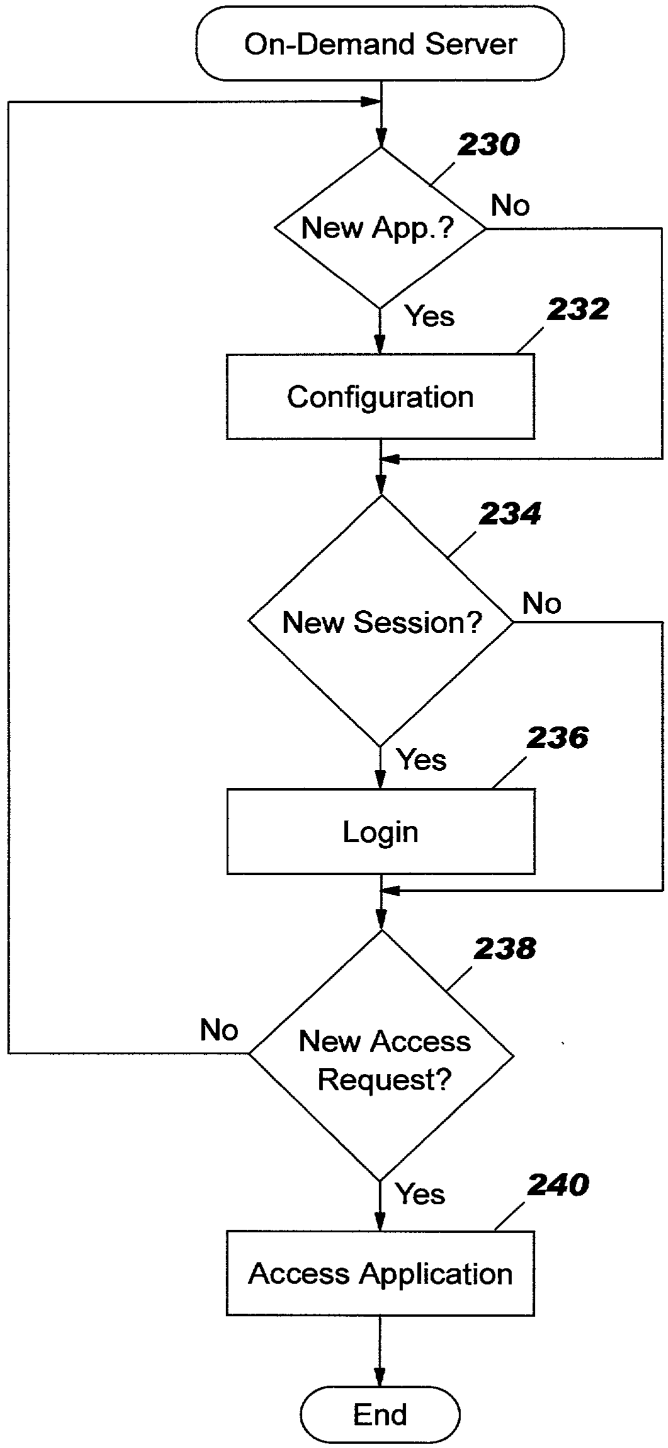

204
214
206
222
200
Web Server
Servlets
Conf. Mgmnt
User Auth
Hdw. Inven
License Mgmnt
System Mgmnt
Network Registry
Web Browser
Config. Framework
208
224
210
212
220
216
218
226
Desktop/Webtop/Apps
Client Access
202
228

FIG. 4



On-Demand Server
230
New App.?
No
Yes
232
Configuration
234
New Session?
No
Yes
236
Login
238
New Access Request?
No
Yes
240
Access Application
End

FIG. 5

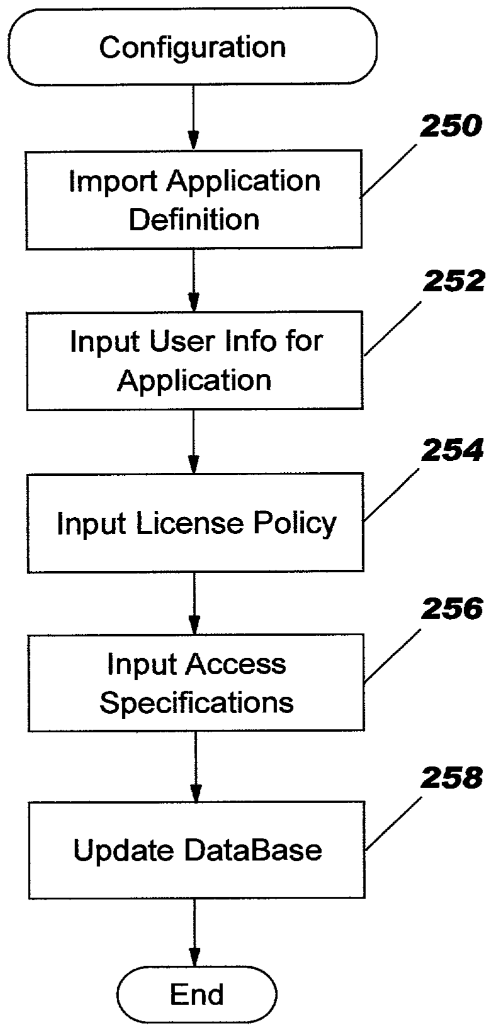


FIG. 6

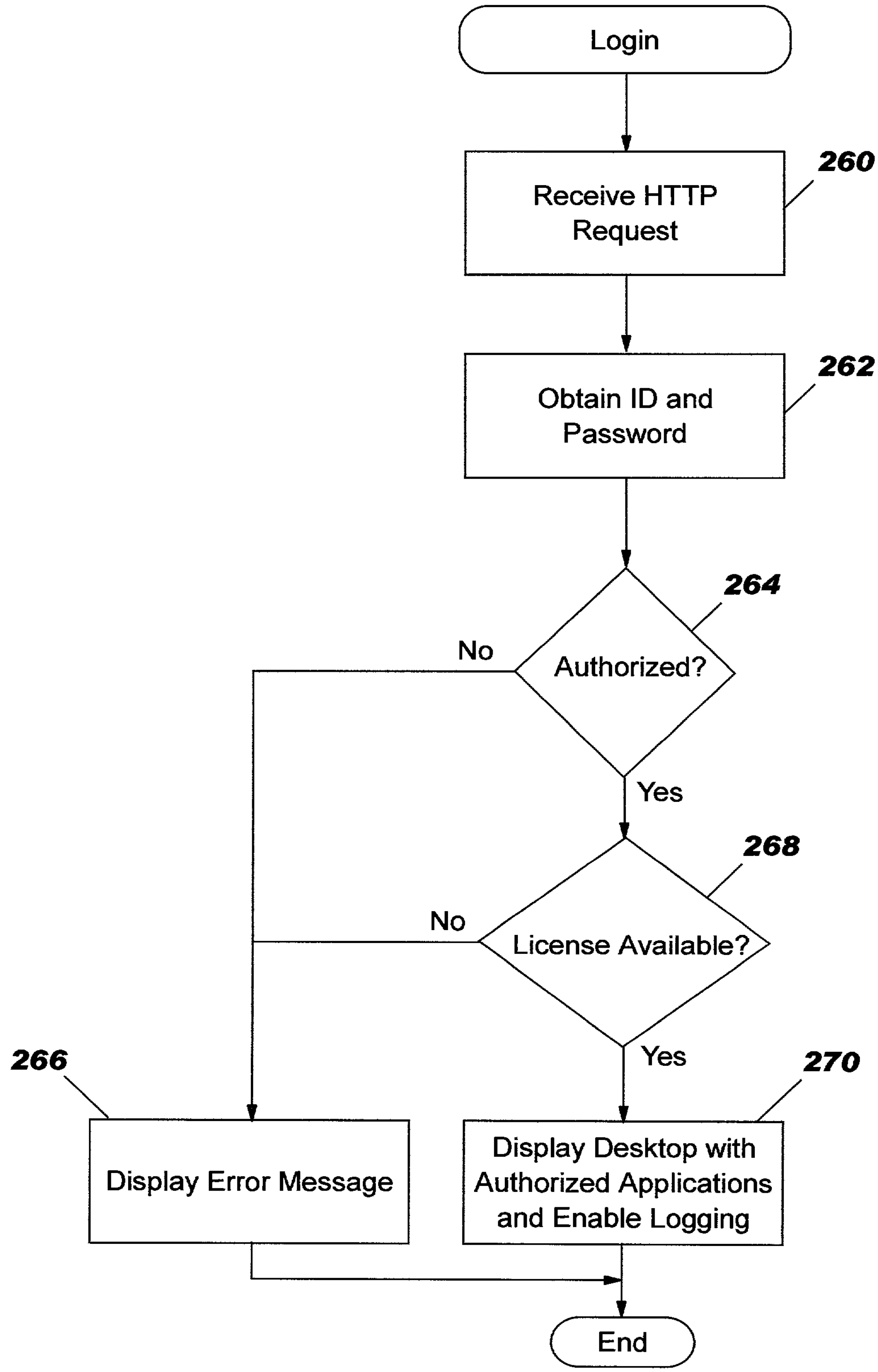

Login
Receive HTTP Request
260
Obtain ID and Password
262
Authorized?
264
No
Yes
License Available?
268
No
Yes
266
Display Error Message
270
Display Desktop with Authorized Applications and Enable Logging
End

FIG. 7

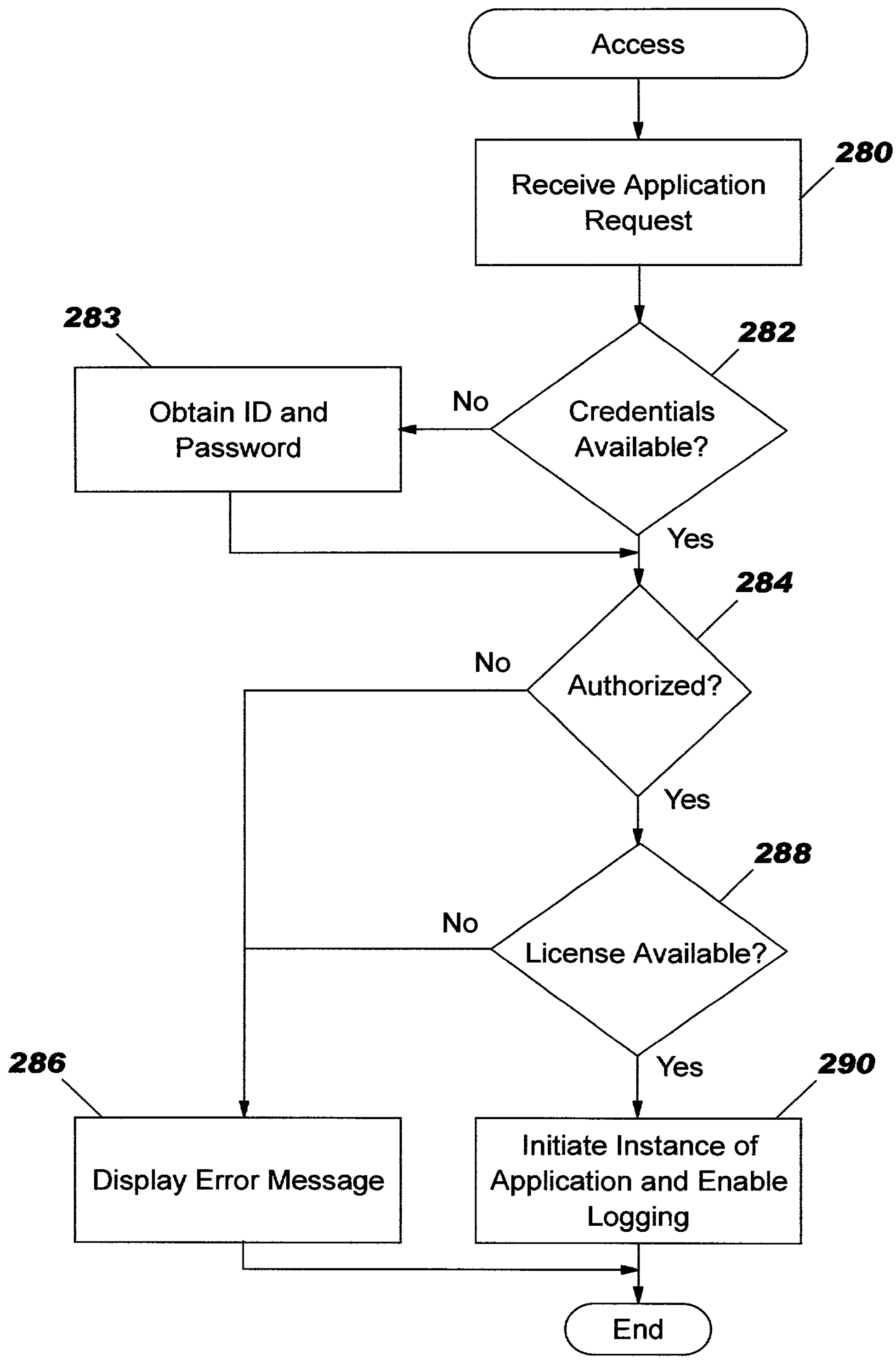


FIG. 8

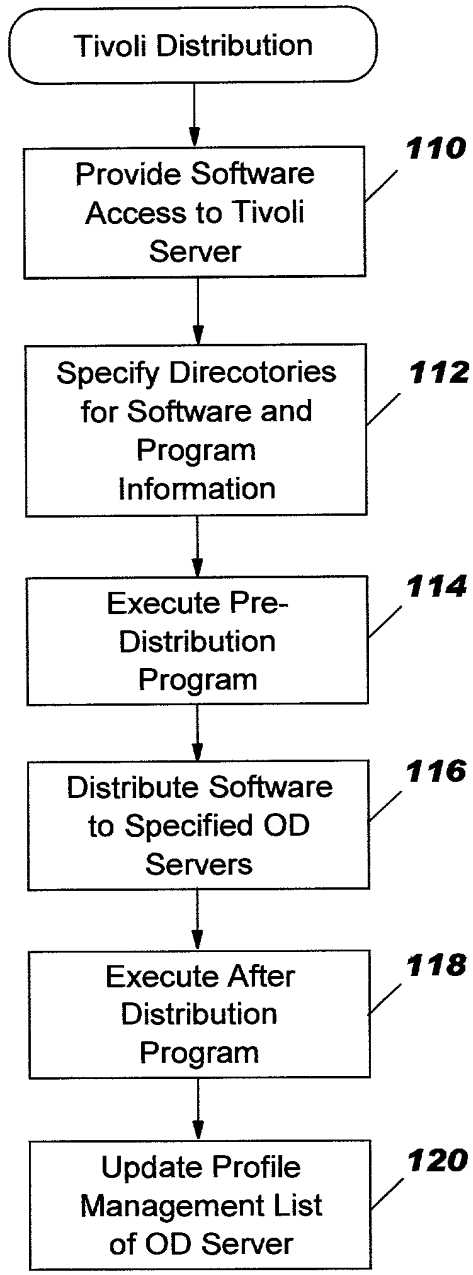

Tivoli Distribution
Provide Software Access to Tivoli Server
110
Specify Direcotories for Software and Program Information
112
Execute Pre-Distribution Program
114
Distribute Software to Specified OD Servers
116
Execute After Distribution Program
118
Update Profile Management List of OD Server
120

FIG. 9A

Create File Package Definition

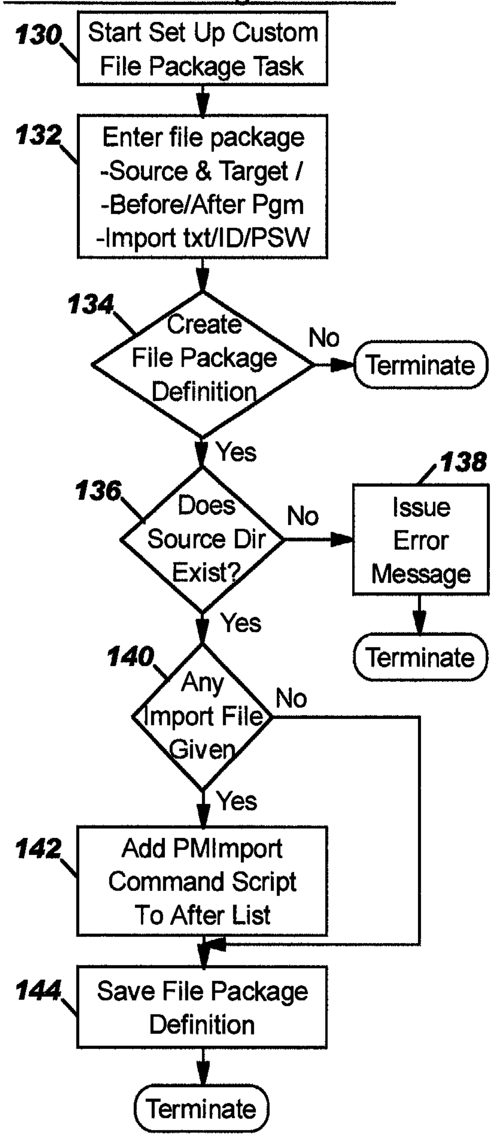


FIG. 9B

Distribute File Package

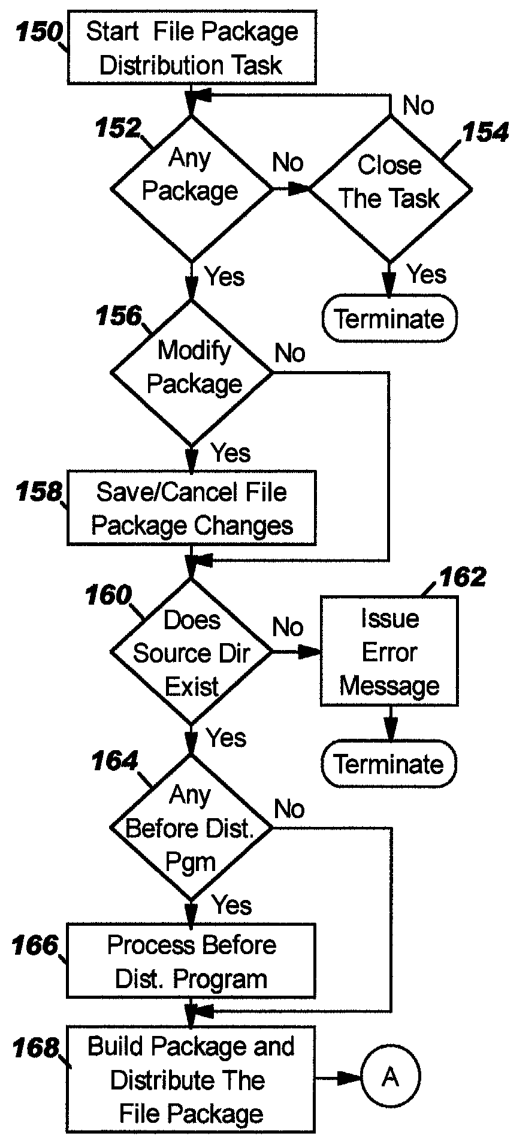


FIG. 9C

Register Package Contents

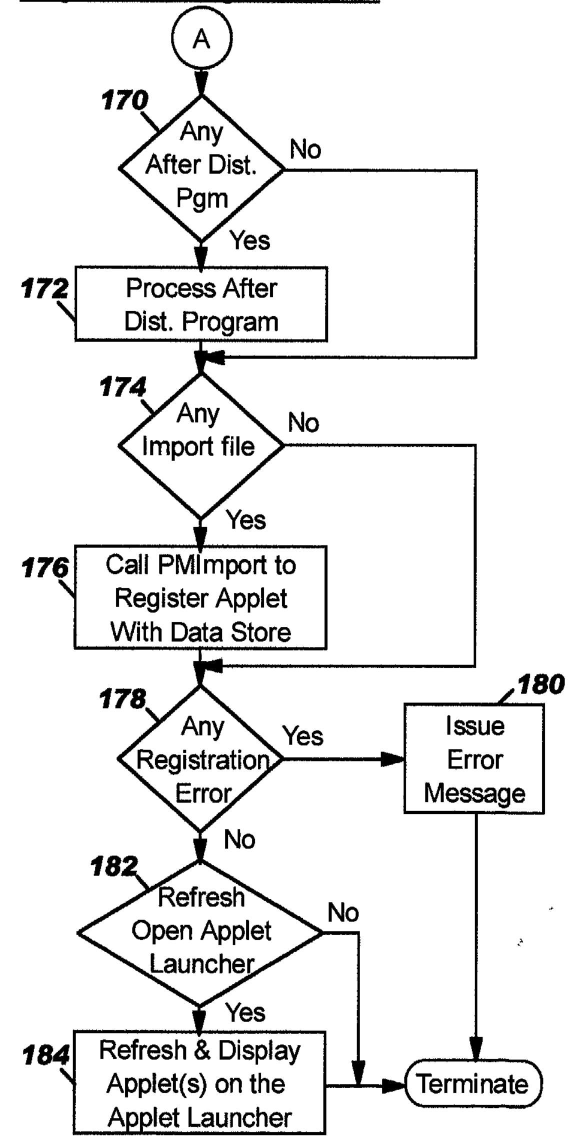
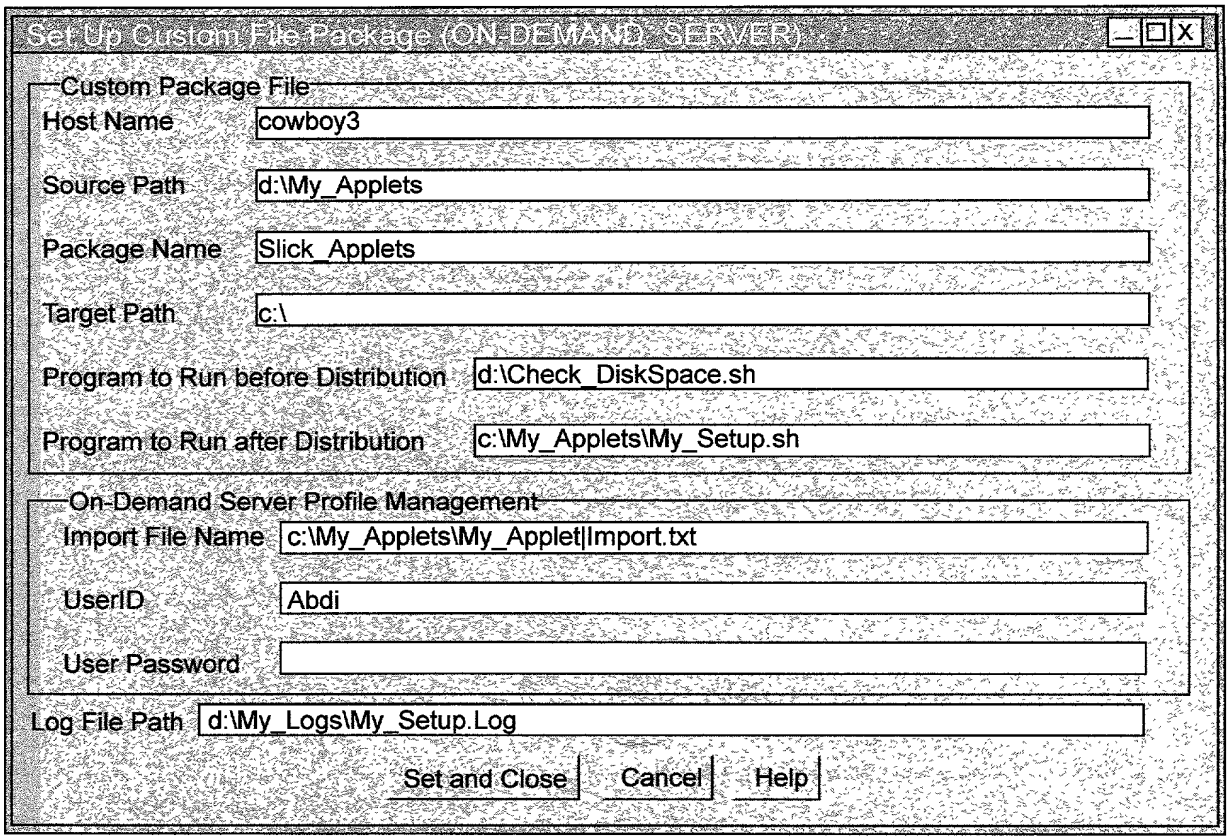


FIG. 10



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COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20231
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APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
09/870,608	05/31/2001	David E. Cox	5577-130DV

CONFIRMATION NO. 9481

20792
MYERS BIGEL SIBLEY & SAJOVEC
PO BOX 37428
RALEIGH, NC 27627

FORMALITIES LETTER

OC000000006195116

Date Mailed: 06/18/2001

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

This application has been accorded an Application Number and Filing Date. The application, however, is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given **TWO MONTHS** from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a)

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  - drawing sheets do not have the appropriate margin(s) (see 37 CFR 1.84(g)). Each sheet must include a top margin of at least 2.5 cm. (1 inch), a left side margin of at least 2.5 cm. (1 inch), a right side margin of at least 1.5 cm. (5/8 inch), and a bottom margin of at least 1.0 cm. (3/8 inch);

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Initial Patent Examination Division (703) 308-1202

PART 3 - OFFICE COPY

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

06/04/2001 MAHMED1 00000062 090461 09870608
01 FC:101 710.00 CH

PTO-1556
(5/87)

*U.S. GPO: 2000-468-987/39595

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2000

Application or Docket Number: 5377-130 DIV

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	15	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	15 minus 20=	* 0
INDEPENDENT CLAIMS	3 minus 3 =	* 0
MULTIPLE DEPENDENT CLAIM PRESENT		☐

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE ☐		OR	OTHER THAN SMALL ENTITY	
RATE	FEE		RATE	FEE
BASIC FEE	355.00	OR	BASIC FEE	710.00
X$ 9=		OR	X$18=	—
X40=		OR	X80=	—
+135=		OR	+270=	—
TOTAL		OR	TOTAL	710

CLAIMS AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 15	Minus	** 20	= —
Independent	* 3	Minus	*** 3	= —
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	—
X40=		OR	X80=	—
+135=		OR	+270=	—
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
***If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

CLAIMS ONLY

SERIAL NO.	FILING DATE
09670605	06/04/01

APPLICANT(S)

CLAIMS

	AS FILED		AFTER 1st AMENDMENT		AFTER 2nd AMENDMENT		*		*		*	
	IND.	DEP.	IND.	DEP.	IND.	DEP.	IND.	DEP.	IND.	DEP.	IND.	DEP.
1							51					
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47							97					
48							98					
49							99					
50							100					
TOTAL IND.	3						TOTAL IND.					
TOTAL DEP.	12						TOTAL DEP.					
TOTAL CLAIMS	15						TOTAL CLAIMS					

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FORM PTO-2022 (1-98)

U.S.DEPARTMENT OF COMMERCE
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Attorney's Docket No. 5577-130DV

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Divisional of David E. Cox, et al.
Serial No. To Be Assigned
Filed: Concurrently Herewith
For: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

May 31, 2001

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Commissioner for Patents
Washington, DC 20231

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CITATION UNDER 37 C.F.R. § 1.97

Sir:

Attached is a list of documents on form PTO-1449. Items 1-27 listed on the PTO-1449 are being concurrently filed in the parent application Serial No. 09/211,528, filed December 14, 1998. Items 28-34 have previously been filed in the parent application Serial No. 09/211,528; filed December 14, 1998 and therefore, as the benefit of this application is claimed under 35 U.S.C. §120, no copies need to be furnished in accordance with 37 C.F.R. §1.98(d); however, copies will be furnished on request. It is requested that these documents be considered by the Examiner and officially made of record in accordance with the provisions of 37 C.F.R. §1.97 and Section 609 of the MPEP.

Respectfully submitted,

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U. S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	1	6,105,066	8/2000	Hayes, Jr.	709	226	
	2	6,108,712	8/2000	Hayes, Jr.	709	246	
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	4	5,745,879	4/98	Wyman	705	1	
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		Number					Yes | No
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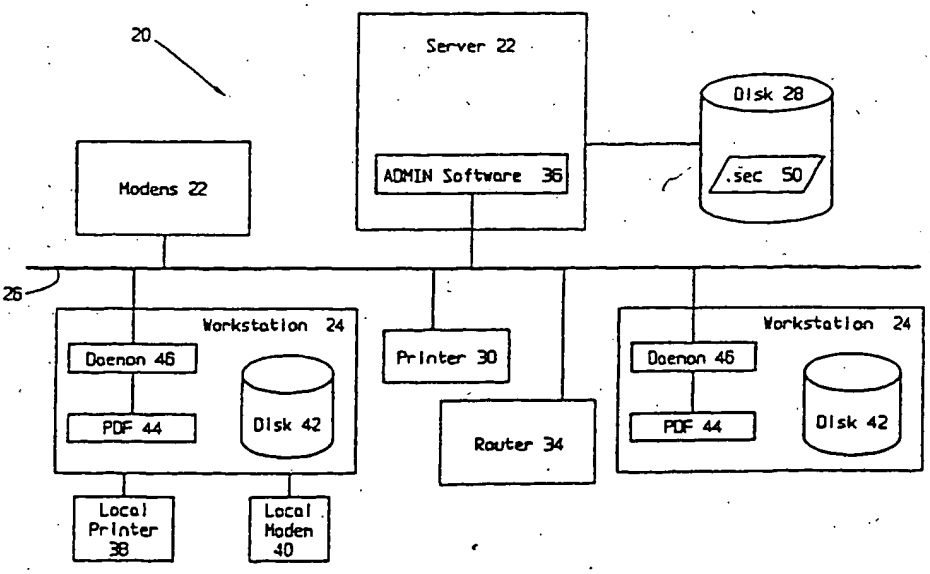
(54) Title: NETWORK DESKTOP MANAGEMENT SECURITY SYSTEM AND METHOD

(57) Abstract

The present invention involves a desktop administration system and method which allows a network administrator to remotely create, protect, and manage desktops and control file systems across a network. The invention provides a graphic user interface to construct user desktops, apply restriction options, maintain transaction logs, and password protect any object accessible from the user workstation. The server software operates to lock out any unpermitted users, allowing access to programs or processes presenting appropriate keys or other authentication information. Each workstation includes a personal desktop facility (PFD) and a Deamon which protects the user's desktop. The PDF receives desktop information from the network server and builds a desktop which the user manipulates to invoke local and/or network programs and access local and/or network utilities, providing appropriate keys or other authentication information to access restricted network resources. The Daemon serves as an interface for the PDF by channeling any communication to or from the user or the network, preventing unauthorized transactions at either the workstation or network level. The PDF provides a graphic user interface using objects that encapsulate programs with data, such as user preferences, default directories, and access privileges. The Daemon performs many tasks, including starting the PDF, enumerating the windows of the graphic user interface, and recording operations.



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NETWORK DESKTOP MANAGEMENT SECURITY SYSTEM AND METHOD

BACKGROUND OF THE INVENTION

The invention relates to network administration software. More specifically, the field of the invention is that of network administration software for managing user workstations on a network.

Computer networks are arranged so that a multitude of users can access common network resources. Each user has a workstation, typically a stand alone personal computer which is connected through a suitable communications link to the other computers of the network. The network administrator is a program which runs on the network server or an administrator workstation which coordinates and manages the access and security of the users on the network. The management of users involves allocating and facilitating access to resources such as programs and data files which are needed or desired by particular users. The security provisions involve allowing only the appropriate users access to certain programs and data files to maintain the integrity and privacy of the network system.

Desktop administration programs provide each user with an individual view of the user's workstation configuration, the network, and the resources available over the network. Such programs conventionally provide a graphic user interface and operate under several constraints. One constraint involves the transparency of the desktop administration program. Transparency in this context means the ability of a user to ascertain the presence of the program merely from observing the operation of the user's workstation. Ideally, a user should not be able to detect the presence of the desktop administration program. Another constraint involves the underlying operating system of the workstation computer and the network. Ideally, the desktop administration program should not interfere with the operation of any portion of the underlying operating system. The management of individual user preferences also constrains desktop administration programs. Ideally, the user's modifications of a desktop configuration should not corrupt the desktop administration program's management of user desktops. Known desktop

replacement or administration programs have difficulties in one or more of these constraints.

What is needed is a desktop administration program which alleviates the above identified constraints and works in concert with the operating system and its standard graphic user interface.

SUMMARY OF THE INVENTION

The present invention is a desktop administration system and method which allows a network administrator to remotely create, protect, and manage desktops across a network. The invention provides a graphic user interface to construct user desktops, apply restriction options, maintain transaction logs, and password protect any object accessible from the user workstation. A security kernel blocks access to resources and only allows access to resources upon receipt of a corresponding key. The desktop administration system uses information records which include a key for allowing access to resources via the security kernel. The workstation desktop includes the ability to unlock access to resources by transmitting a key to the security kernel. The invention allows these functions without altering how a user works on the desktop, or the capacities of the underlying operating system or network.

Each workstation includes a personal desktop facility (PDF) and a Daemon which protects the user's desktop. The personal desktop facility receives desktop information from the network server and builds a desktop which the user manipulates to invoke local and/or network programs and access local and/or network utilities. The Daemon serves as an interface for the personal desktop facility by channeling any communication to or from the user or the network, preventing unauthorized transactions at either the workstation or network level.

The personal desktop facility (PDF) provides a graphic user interface using objects that represent collections of programs and data, such as user preferences, default directories, and access privileges. The PDF can create objects, remove objects, and alter object settings. Providing a user with the proper collection of objects with the proper settings creates a workstation tailored to the users needs, thus increasing the efficiency of the user.

The daemon has many tasks, including starting the PDF, enumerating the windows of the graphic user interface, and recording operations. Starting the PDF may involve obtaining security clearance, and includes loading the user's desktop from the server. Enumerating the windows of the graphic user interface facilitates proper operation of the desktop and the programs running under it. Recording operations may involve creating a log of user operations, such as tagging or signaling events when they occur, noting the usage of passwords, and the startup and exit of the desktop from the network connection.

The present invention provides several significant advantages. The network administrator may standardize desktops quickly and uniformly by manipulating the server's database of personal desktop profiles, or by modifying common desktop objects which are stored on the server. Users may also be mobile across the network, because regardless of which machine they use, the PDF will load their personal desktop file from the network server. The Daemon further protects the desktop from inadvertent damage, and prevents intentional alteration of the network architecture.

The present invention, in one form, is a method for a network of computers including a server and a workstation. The method provides users access to resources and comprises the steps of creating a plurality of information records each with a user specific workstation configuration including specification of accessible resources for the user; retrieving one of the user specific information records using a computer program operating on the workstation; and providing on the workstation a desktop user interface providing user access as specified by the information record associated with the user. The inventional method is characterized by the step of blocking access to resources via a security kernel, wherein the information records include a key for only allowing access to resources via the security kernel. The method is further characterized by the step of allowing access to resources upon receipt of a corresponding key from the desktop user interface.

Other aspects of the invention relate to the step of monitoring processes initiated by the desktop user interface, wherein the monitoring step includes the step of checking processes on the workstation against the user specific information record received from the server. Also, the inventional method prevents

unauthorized access to the network resources through the desktop, and may impose access restrictions based on information stored on the workstation or require that a user have access to a validation resource before allowing access to a specified resource. In another aspect of the invention, the network uses an object oriented operating system, and each object includes a plurality of instructions and associated data so that the system creates a list of objects representing the resources. The desktop may be stored after a session with a user, or filtered according to criteria received from the server.

Another aspect of the invention relates to a machine-readable program storage device for storing encoded instructions for a method of providing user access to resources in a network of computers including a server and a workstation according to the foregoing method.

A further aspect of the invention relates to a computer network for providing user access to resources including at least one of local and network computer programs, local and network peripheral devices, and external communication devices, the network comprising: a server; a plurality of workstations coupled to the server, each workstation including display means for providing a graphic user interface for a user; and communication means for transmitting messages between the server and the workstations; characterized by the computer network including instructions for operating according to the foregoing method.

BRIEF DESCRIPTION OF THE DRAWINGS

The above mentioned and other features and objects of this invention, and the manner of attaining them, will become more apparent and the invention itself will be better understood by reference to the following description of an embodiment of the invention taken in conjunction with the accompanying drawings, wherein:

Figure 1 is a schematic diagrammatic view of a computer network using the present invention.

Figure 2 is a flow chart diagram of the operation of the present invention.

Corresponding reference characters indicate corresponding parts throughout the several views. Although the drawings represent embodiments of the present invention, the drawings are not necessarily to scale and certain features may be

exaggerated in order to better illustrate and explain the present invention. The exemplification set out herein illustrates an embodiment of the invention, in one form, and such exemplifications are not to be construed as limiting the scope of the invention in any manner.

DESCRIPTION OF THE PRESENT INVENTION

The embodiment disclosed below is not intended to be exhaustive or limit the invention to the precise form disclosed in the following detailed description. Rather, the embodiment is chosen and described so that others skilled in the art may utilize its teachings.

The detailed descriptions which follow are presented in part in terms of algorithms and symbolic representations of operations on data bits within a computer memory representing alphanumeric characters or other information. These descriptions and representations are the means used by those skilled in the art of data processing arts to most effectively convey the substance of their work to others skilled in the art.

An algorithm is here, and generally, conceived to be a self-consistent sequence of steps leading to a desired result. These steps are those requiring physical manipulations of physical quantities. Usually, though not necessarily, these quantities take the form of electrical or magnetic signals capable of being stored, transferred, combined, compared, and otherwise manipulated. It proves convenient at times, principally for reasons of common usage, to refer to these signals as bits, values, symbols, characters, display data, terms, numbers, or the like. It should be borne in mind, however, that all of these and similar terms are to be associated with the appropriate physical quantities and are merely used here as convenient labels applied to these quantities.

Some algorithms may use data structures for both inputting information and producing the desired result. Data structures greatly facilitate data management by data processing systems, and are not accessible except through sophisticated software systems. Data structures are not the information content of a memory, rather they represent specific electronic structural elements which impart a physical organization on the information stored in memory. More than mere abstraction, the data structures are specific electrical or magnetic structural elements in memory

which simultaneously represent complex data accurately and provide increased efficiency in computer operation.

Further, the manipulations performed are often referred to in terms, such as comparing or adding, commonly associated with mental operations performed by a human operator. No such capability of a human operator is necessary, or desirable in most cases, in any of the operations described herein which form part of the present invention; the operations are machine operations. Useful machines for performing the operations of the present invention include general purpose digital computers or other similar devices. In all cases the distinction between the method operations in operating a computer and the method of computation itself should be recognized. The present invention relates to a method and apparatus for operating a computer in processing electrical or other (e.g., mechanical, chemical) physical signals to generate other desired physical signals.

The present invention also relates to an apparatus for performing these operations. This apparatus may be specifically constructed for the required purposes or it may comprise a general purpose computer as selectively activated or reconfigured by a computer program stored in the computer. The algorithms presented herein are not inherently related to any particular computer or other apparatus. In particular, various general purpose machines may be used with programs written in accordance with the teachings herein, or it may prove more convenient to construct more specialized apparatus to perform the required method steps. The required structure for a variety of these machines will appear from the description below.

The present invention deals with "object-oriented" software, and particularly with an "object-oriented" operating system. The "object-oriented" software is organized into "objects", each comprising a block of computer instructions describing various procedures ("methods") to be performed in response to "messages" sent to the object. Such operations include, for example, the manipulation of variables and the transmission of one or more messages to other objects. Messages are sent and received between objects having certain functions and knowledge to carry out processes. Messages are generated in response to user instructions, for example, by a user activating an icon with a "mouse" pointer.

Also, messages may be generated by an object in response to the receipt of a message. When one of the objects receives a message, the object carries out an operation (a message procedure) corresponding to the message and, if necessary, returns a result of the operation. Each object has a region where internal states (instance variables) of the object itself are stored and where the other objects are not allowed to access. One feature of the object-oriented system is inheritance. For example, an object for drawing a "circle" on a display may inherit functions and knowledge from another object for drawing a "shape" on a display.

A programmer "programs" in an object-oriented programming language by writing individual blocks of code each of which creates an object by defining its methods. A collection of such objects adapted to communicate with one another by means of messages comprises an object-oriented program. Object-oriented computer programming facilitates the modeling of interactive systems in that each component of the system can be modeled with an object, the behavior of each component being simulated by the methods of its corresponding object, and the interactions between components being simulated by messages transmitted between objects.

An operator may stimulate a collection of interrelated objects comprising an object-oriented program by sending a message to one of the objects. The receipt of the message may cause the object to respond by carrying out predetermined functions which may include sending additional messages to one or more other objects. The other objects may in turn carry out additional functions in response to the messages they receive, including sending still more messages. In this manner, sequences of message and response may continue indefinitely or may come to an end when all messages have been responded to and no new messages are being sent. When modeling systems utilizing an object-oriented language, a programmer need only think in terms of how each component of a modeled system responds to a stimulus and not in terms of the sequence of operations to be performed in response to some stimulus. Such sequence of operations naturally flows out of the interactions between the objects in response to the stimulus and need not be preordained by the programmer.

Although object-oriented programming makes simulation of systems of interrelated components more intuitive, the operation of an object-oriented program

is often difficult to understand because the sequence of operations carried out by an object-oriented program is usually not immediately apparent from a software listing as in the case for sequentially organized programs. Nor is it easy to determine how an object-oriented program works through observation of the readily apparent manifestations of its operation. Most of the operations carried out by a computer in response to a program are "invisible" to an observer since only a relatively few steps in a program typically produce an observable computer output.

In the following description, several terms which are used frequently have specialized meanings in the present context. The term "object" relates to a set of computer instructions and associated data which can be activated directly or indirectly by the user. The terms "windowing environment", "running in windows", and "object oriented operating system" are used to denote a computer user interface in which information is manipulated and displayed on a video display such as within bounded regions on a raster scanned video display. The terms "network", "local area network", "LAN", "wide area network", or "WAN" mean two or more computers which are connected in such a manner that messages may be transmitted between the computers. In such computer networks, typically one or more computers operate as a "server", a computer with large storage devices such as hard disk drives and communication hardware to operate peripheral devices such as printers or modems. Other computers, termed "workstations", provide a user interface so that users of computer networks can access the network resources, such as shared data files, common peripheral devices, and inter-workstation communication. Users activate computer programs or network resources to create "processes" which include both the general operation of the computer program along with specific operating characteristics determined by input variables and its environment.

The terms "desktop", "personal desktop facility", and "PDF" mean a specific user interface which presents a menu or display of objects with associated settings for the user associated with the desktop, personal desktop facility, or PDF. The term "Daemon" refers to a program which is not necessarily apparent to the user, but which is responsible for transmitting messages between the PDF and the network server and for protecting and regulating the user's ability to use and modify

network resources. Although the following description details such operations in terms of a graphic user interface using icons, the present invention may be practiced with text based interfaces, or even with voice or visually activated interfaces.

A computer network is shown in block diagram form in Figure 1, showing the general orientation and arrangement of the software operating on the computer equipment, including the server administration, the workstation PDF, and the Daemon software. Network 20 includes at least one server 22 and at least one, and typically dozens or hundreds, of workstations 24. Server 22 and workstations 24 are connected by communication line 26 which may be an ethernet cable or another suitable device. Network 20 also includes several shared peripheral devices, such as disk storage 28 (typically coupled directly to server 22, although connection through communication line 26 is also possible), printers 30, modems 32, and router 34. ADMIN (administration) software 36 resides on server 22, and generally controls communications between the components of network 20. For example, ADMIN software 34 typically controls access to disk storage 28, the scheduling of printing jobs on printers 30, the allocation of modems 32, and the transmission of information through router 34.

Each workstation 24 includes a computer with a monitor and keyboard, such as a standard personal computer (e.g., an IBM-PC type or Macintosh) or an advanced computer (e.g., a Next or SPARC workstation), and may include its own peripheral devices such as local printer 38, local modem 40, or local disk storage 42. With the present invention, each workstation 24 includes PDF 44 and Daemon 46. PDF 44 provides a graphic user interface, or "desktop", to the programs and resources available on its workstation 24 and generally through network 20. Daemon 46 serves as an intermediary between ADMIN 36 and PDF 44, filtering out unauthorized activities and maintaining the integrity of the desktop. ADMIN 36 only accepts requests and receives messages from Daemon 46, so PDF 44 is required to access information and programs through Daemon 46, and must send all of its information to ADMIN 36 through Daemon 46. Further, PDF 44 may only change the parameters of the desktop through Daemon 46, and Daemon 46 determines what operations are permissible based on criteria supplied from ADMIN 36. Daemon 46 includes both an initiation routine and a periodic checking routine

to implement these functions. With this arrangement, which is explained in further detail below, the integrity of each desktop is maintained by Daemon 46, and permanently maintained by ADMIN 36.

In accordance with the present invention, disk 28 of server 22 stores .sec file 50 (the logical designation of .sec file 50 may include several separate physical files which are interrelated through logical connections). ADMIN software 36 uses the information contained in .sec file 50 to specify the menu of computer programs and network resources which may be referenced by the desktops of the users of network 20. .sec file 50 may be a general file for all the users of network 20. Alternatively, .sec file 50 may represent a collection of files, which each file corresponding to a particular user or a particular class of user. Another alternative is a hybrid approach, wherein the menu information has a common component and a user specific component. In any event, this arrangement allows for a network administrator to directly manipulate .sec file 50 with ADMIN software 36 on server 22 to modify, customize, and/or maintain the desktops across a network, rather than having to change each desktop configuration locally.

In addition to ADMIN 36 creating .sec file 50 to record a user's desktop configuration on server 22, the present invention uses PDF 44 to enforce the user's desktop configuration directly on workstation 24. PDF 44 operates on the assumption that unless the user is specifically authorized to access a particular computer program or resource, that user's workstation should not be allowed to manipulate or interact with that particular item. Only upon receiving .sec file 50 from ADMIN 36 does PDF 44 construct a desktop for the user, and that desktop only provides access to computer programs and resources which are specifically identified for the user on .sec file 50. Thus, with the first embodiment of the present invention, access control is first maintained at the level of workstations 24 to enhance the protection of server 22.

In a second embodiment of the invention, ADMIN 36 on server 22 locks out the user from the file system software at workstation 24, and only a properly configured desktop provided by PDF 44 can present a key to unlock the file system and access resources on server 22. The implementation of the second embodiment with the OS/2 operating system includes several routines of ADMIN 36 which

interact with certain security features of the OS/2 operating system to achieve this file lock out. However, one of ordinary skill in this art would readily appreciate that such server access control lock-outs may be implemented with any operating system by a suitably designed program operating with the benefit of system administration privileges.

The present invention may be best explained using the paradigm of an object oriented operating system. However, one of ordinary skill in the operating system programming art recognizes that all operating systems may be abstracted to conform with object oriented programming principles so that a programmer may impose object oriented programming principles on any operating system. The exemplary embodiment of the present invention works in conjunction with the OS/2* operating system developed and sold by International Business Machines, Incorporated (IBM) (* "OS/2" is a trademark of IBM). The OS/2 operating system formally identifies and utilizes objects as part of its operating schema, wherein the individual processes managed by the OS/2 operating system are encapsulated by objects which define the computer programs, data, icons, access privileges, and other attributes effecting the ability of the process to influence or alter other portions of the system. Many similar operating systems use an object oriented operating schema, and thus the present invention is directly applicable to many conventional operating systems, including Windows95 and WindowsNT made by Microsoft Corporation.

In an object oriented operating system, programs and the processes they create may be associated with a class which has common characteristics. The class designation communicates to the operating system that the class member includes a predefined set of characteristics. Access privileges and security clearances may be set for classes rather than having to identify such information for every individual object or process. Also, PDF 44 and ADMIN 36 may be designed to include security and control algorithms which can target classes of processes rather than only singly identified processes. The following example of a .sec file used in the second embodiment of the invention as a default desktop profile, implemented in this embodiment as a flat text file, provides several class designations along with the other desktop information.

[Master] ENABLESECURITY=OBJECTS:RESTRICTUNDEF=YES;DESC=Default Workstation Desktop:PASSWORD=æSéüöJöEÿcĖ▒ô ┌à ╟╢ siô ┌▲uL GÜ§▼Σ≡◊¤:LOG=BCD:

[Folder] TITLE=Desktop; CLASS=DskDesktop; OBJECTID=<WP_DESKTOP>;
ICONRESOURCE=56,PMWP.DLL; DEFAULTVIEW=OPEN_DEFAULT; POPUP=6258802;
HELPPANEL=4000; MINWIN=VIEWER; NOCOPY=YES; NODELETE=YES; NOPRINT=YES;
BYPSSETUP=YES; WINLIST=YES; INCCHLD=YES; BACKGROUND=
C:\OS2\BITMAP\BUBBLPAD.BMP, T, 0, I, 163 163 148; ICONFONT=8.Helv;
ICONVIEW=NOGRID,NORMAL; TREEFONT=8.Helv; TREEVIEW=MINI.LINES;
DETAILSFONT=8.Helv;
[Folder] TITLE=OS/2 System; CLASS=PRDirectory; OBJECTID=<DO_OS2SYS>;
PARENTID=<WP_DESKTOP> ;SHADOWID=<WP_OS2SYS>; ICONPOS=8, 80;
DEFAULTVIEW=184, 345, 716, 291; HELPPANEL=4002; MINWIN=VIEWER; NOCOPY=YES;
NODELETE=YES; NODRAG=YES; NODROP=YES; NOMOVE=YES; NORENAME=YES;
NOLINK=YES; NOSETTINGS=YES; NOPRINT=YES; WINLIST=YES;
BACKGROUND=(none),,,C,255 255 236; ICONFONT=8.Helv; ICONVIEW=FLOWED,MINI;
TREEFONT=8.Helv; TREEVIEW=MINI.LINES; DETAILSFONT=8.Helv;
[Folder]TITLE=Connections; CLASS=PRDirectory;
OBJECTID=<DO_CONNECTIONSFOLDER>; PARENTID=<WP_DESKTOP>;
SHADOWID=<WP_CONNECTIONSFOLDER>; ICONPOS=8,62;
DEFAULTVIEW=OPEN_DEFAULT; HELPPANEL=1277; MINWIN=VIEWER; NOPRINT=YES;
WINLIST=YES; BACKGROUND=(none), , , C, 255 255 236; ICONFONT=8.Helv;
ICONVIEW=NOGRID, NORMAL; TREEFONT=8.Helv; TREEVIEW=MINI.LINES;
DETAILSFONT=8.Helv;
[Folder] TITLE=Assistance Center; CLASS=PRDirectory; OBJECTID=<DO_ASSISTANCE>;
PARENTID=<WP_DESKTOP>; SHADOWID=<WP_ASSISTANCE>; ICONPOS=8,71;
DEFAULTVIEW=OPEN_DEFAULT; HELPPANEL=1277; MINWIN=VIEWER; NOPRINT=YES;
WINLIST=YES; BACKGROUND=(none),,,C,255 255 236; ICONFONT=8.Helv;
ICONVIEW=FLOWED,MINI; TREEFONT=8.Helv; TREEVIEW=MINI.LINES;
DETAILSFONT=8.Helv;
[Folder] TITLE=Programs; CLASS=PRDirectory; OBJECTID=<DO_PROGRAMSFOLDER>;
PARENTID=<WP_DESKTOP>; SHADOWID=<WP_PROGRAMSFOLDER>; ICONPOS=8,53;
DEFAULTVIEW=OPEN_DEFAULT; HELPPANEL=1277; MINWIN=VIEWER; NOPRINT=YES;
WINLIST=YES; BACKGROUND=(none),,,C,255 255 236; ICONFONT=8.Arial;
ICONVIEW=FLOWED,MINI; TREEFONT=8.Arial; TREEVIEW=MINI.LINES;
DETAILSFONT=8.Arial;
[Folder] TITLE=WebExplorer; CLASS=PRDirectory; OBJECTID=<DO_WC_WEBEX_FOLD0>;
PARENTID=<WP_DESKTOP>; SHADOWID=<WC_WEBEX_FOLD>; ICONPOS=8,44;
DEFAULTVIEW=OPEN_DEFAULT; HELPPANEL=1277; MINWIN=VIEWER; NOPRINT=YES;
WINLIST=YES; BACKGROUND=(none),,,C,255 255 236; ICONFONT=9.WarpSans;
ICONVIEW=NOGRID,NORMAL; TREEFONT=9.WarpSans; TREEVIEW=MINI.LINES;
DETAILSFONT=9.WarpSans;
[Object] TITLE=Shredder; CLASS=WPShredder; OBJECTID=<DO_SHRED>;
PARENTID=<WP_DESKTOP>; SHADOWID=<WP_SHRED>; ICONPOS=88,32;

ICONRESOURCE=28,PMWP.DLL; DEFAULTVIEW=OPEN_DEFAULT; HELPPANEL=1190;
MINWIN=VIEWER; NOCOPY=YES; NODELETE=YES; NOPRINT=YES; WINLIST=YES;
[Object] TITLE=Templates; CLASS=DskShadow;
OBJECTID=<DO_Templates0DskShadowDskDesktop>; PARENTID=<WP_DESKTOP>;
SHADOWID=<WP_TEMPS>; ICONPOS=8,34; DEFAULTVIEW=OPEN_DEFAULT;
HELPPANEL=15680; MINWIN=VIEWER; NOPRINT=YES; WINLIST=YES;
[Object] TITLE=Black Hole; CLASS=BlackHole; OBJECTID=<DO_BLACKHOLE0>;
PARENTID=<WP_DESKTOP>; SHADOWID=<BLACKHOLE>; ICONPOS=80,32;
ICONRESOURCE=22,PMWP.DLL; DEFAULTVIEW=OPEN_DEFAULT; MINWIN=VIEWER;
NOPRINT=YES; WINLIST=YES;
[Pad] TITLE=LaunchPad; CLASS=WPLaunchPad; OBJECTID=<DO_LAUNCHPAD>;
PARENTID=<WP_DESKTOP>; ICONPOS=79,87; ICONRESOURCE=74,PMWP.DLL;
DEFAULTVIEW=OPEN_DEFAULT; HELPPANEL=32253; CCVIEW=NO; MINWIN=VIEWER;
NOPRINT=YES; WINLIST=YES; FPOBJECTS=<WPPO_IBMLASER>, <WP_DRIVE_A>,
<WP_OS2WIN>, <WP_ASSISTANCE>, <WP_SHRED>; LPACTIONSTYLE=TEXT;
LPHIDECTLS=YES;
DRAWEROBJECTS=3,<WP_WIN2WIN>,<WP_DOSWIN>^:2,<WP_DRIVES>;
[Program] TITLE=Verify^r^nDefects; CLASS=WPProgram;
OBJECTID=<DO_Verify_Defects0WPProgramDskDesktop>; PARENTID=<WP_DESKTOP>;
SHADOWID=<DU_Verify_Defects0WPProgramDskDesktop>; ICONPOS=88,67;

DEFAULTVIEW=OPEN_DEFAULT; HELPPANEL=4083; CCVIEW=NO; MINWIN=VIEWER;
NOPRINT=YES; USEPARENT=YES; WINLIST=YES; EXENAME=D:\TOOLS\VERDFCT.CMD;
PROGTYPE=WINDOWABLEVIO;
[Program] TITLE=SkyScraper; CLASS=WPProgram;
OBJECTID=<DO_SkyScraper0WPProgramDskDesktop>; PARENTID=<WP_DESKTOP>;
SHADOWID=<DU_SkyScraper0WPProgramDskDesktop>; ICONPOS=9,90;
DEFAULTVIEW=OPEN_DEFAULT; HELPPANEL=4083; CCVIEW=NO; MINWIN=DESKTOP;
NOPRINT=YES; LNCHPROG=C:\OS2\E.EXE; EXITPROG=C:\OS2\ICONEDIT.EXE;
EVENTEXIT=YES; EVENTLNCH=YES; GLBLPW=YES;
EXENAME=C:\SKY\SKY.EXE;PARAMETERS=/ao /r1 /d2 /j1 /g2 /m1 /x2;
STARTUPDIR=C:\SKY;PROGTYPE=PM;
[Program] TITLE=Rejected^r^nDefects;
CLASS=WPProgram;OBJECTID=<DO_Rejected_Defects0WPProgramDskDesktop>;
PARENTID=<WP_DESKTOP>; SHADOWID=<DU_Rejected_Defects0WPProgramDskDesktop>;
ICONPOS=89,45; DEFAULTVIEW=OPEN_DEFAULT; HELPPANEL=4083;
MINWIN=VIEWER; NOPRINT=YES; WINLIST=YES; EXENAME=D:\TOOLS\REJECT.CMD;
PROGTYPE=WINDOWABLEVIO;
[Datafile] TITLE=config.sys; CLASS=WPDataFile; OBJECTID=<DO_C_config_sys0>;
PARENTID=<WP_DESKTOP>; SHADOWID=C:\config.sys;
DEFAULTVIEW=OPEN_DEFAULT; NVBLDORIG=YES; VPF=C:\DSKOBV;
HELPPANEL=4082; CVIEW=YES; HIDEBUTTON=YES; MINWIN=DESKTOP;
WINLIST=YES; LOG=ABCD;
[Object] TITLE=Drive D:CLASS=PRDisk; OBJECTID=<DO_DRIVE_D>;
PARENTID=<WP_DESKTOP>; SHADOWID=<WP_DRIVE_D>;
ICONRESOURCE=13,PMWP.DLL; DEFAULTVIEW=120; HELPPANEL=8015;
MINWIN=VIEWER; NOCOPY=YES; NODELETE=YES; NOMOVE=YES; NOPRINT=YES;
WINLIST=YES;
[Printer] TITLE=IBM Laser - Optra E; CLASS=WPRPrinter;
OBJECTID=<DO_WPPO_IBMLASER0>; PARENTID=<WP_DESKTOP>
;SHADOWID=<WPPO_IBMLASER>; DEFAULTVIEW=OPEN_CONTENTS;
HELPPANEL=15409; CCVIEW=NO; MINWIN=VIEWER ;NOPRINT=YES; WINLIST=YES;
NETID=LS:*COLORADO\LASER ;ALIAS=IBMLASER;SHOWJOBS=ALL;REFRESH=25;
[Program] TITLE=Sample Program; CLASS=WPProgram; OBJECTID=<DO_SAMPLEPROG>;
PARENTID=<WP_DESKTOP>; DEFAULTVIEW=OPEN_DEFAULT; CCVIEW=YES;
HIDEBUTTON=YES; MINWIN=HIDE; NOTVISIBLE=YES; NOMOVE=YES;
NORENAME=YES; NOSETTINGS=YES; TEMPLATE=YES; WINLIST=YES;
EXENAME=C:\OS2\ATTRIB.EXE; PARAMETERS=+r [Enter file to write-protect];
PROGTYPE=PM;
[Ses] TRUSTEDAPP=c:\os2\c.exe:RUNWARN=1:LOG=AD;
[Ses] FILE=autoexec.bat:DIR=c::LOCK=FILE:RUNWARN=0:FILEATTR=RWDM:LOG=aceg;

[Ses] DIR=c:\os2; LOCK=DIR; SUBDIR=YES; RUNWARN=0; FILEATTR=WDM;
DIRATTR=CGDM; LOG=cegkmo;
[Ses] FILE=protocol.ini; DIR=c:\ibmlan; UNLOCK=FILE; OCCUR=ALL; RUNWARN=0;
FILEATTR=RWDM;
[Device] PORTS=COM1.COM2.COM3.COM4.LPT1; LOG=ABCD;
[Filter] TEXT=WarpCenter; BEGMTCH=YES; NOCLSWPS=YES;
[Filter] TEXT=System; PASSWORD=[illegible]
MIDMTCH=YES; WINLIST=YES; IGNCASE=YES; LOG=ABCD;
[End]

Each initial bracketed item identifies the class of the object, including desktop objects, devices, filters, or file system objects, which is utilized by PDF 44 to invoke the appropriate program, install the appropriate desktop icon, or initialize the appropriate resource. The first item, [Master], is a header block identifying the .sec file, in this instance a Master file for a default workstation desktop. The statement ENABLESECURITY= OBJECTS instructs PDF 44 to use security privileges on an

object level ("FS" would instruct PDF 44 to use file system security privileges, while "BOTH" would enable both object and file system security), while the statement RESTRICTUNDEF=YES instructs PDF 44 to check for, and if an undefined process is found, restrict its access to workstation 24 and server 22. The PASSWORD statement identifies the default security password, which is encrypted, and the statement LOG=BCD activates a transaction log in the background of the desktop operation. These and other high level instructions can thus be provided to PDF 44 on the workstation from the .sec file provided by ADMIN 36. ADMIN 36 can then block all access to network resources by the workstation until supplied the appropriate information (e.g., keys, predefined requests, or passwords) from PDF 44.

The second item of the .sec file of the example, [Folder] TITLE= Desktop, is the highest level class and identifies the desktop user interface representation of the object. The statement CLASS=DskDesktop indicates that the object belongs to the class of top level desktop display which is created by inheriting characteristics from the WPShell class and adds further characteristics utilized by the inventional method (the DskDesktop class is sometimes referred to as a replacement class as it replaces the WPShell class). This desktop class of object represents PDF 44 to the user, and the statements within this item of the .sec file provide the default parameters for the user interface to PDF 44. However, PDF 44 does not include security and privilege information relating to workstation process, such information being stored on a local .sec file which is referred to by PDF 44.

The third item of the .sec file of the example, [Folder] TITLE= OS/2 System, identifies the desktop user interface representation of the object, and the statement CLASS= PRDirectory indicates that the object belongs to a class of program directories. Such a PRDirectory may be a subclass of a folder class, such as created by a LAN network system. This object represents a directory of programs to the user, specifically in this case a collection of OS/2 operating system programs. Any program activated from a particular folder inherits the privileges of the folder unless the program object itself overrides the inherent privileges. This item includes three identifications used by PDF 44 in manipulating this or related objects, namely OBJECTID (the identifier of the object itself), PARENTID (the

identifier of the parent of the object), and SHADOWID (the pointer to the original object). The item also includes several display parameters, and several security/privilege indicators. This "OS/2 System" item includes several identifiers and indicators which are used in [Folder] class items. Icons are located inside the folders, and processes started by invoking the icons will have default access privileges according to the security/privilege statements of the originating folder, and all parent folders (folders which contain other folders).

The items identified by [Pad], [Program], [Datafile], and [Printer] all deal with discreet logical and/or physical devices. The [Pad] item refers to a facility which can initiate other operations or applications, or "launch" them, e.g., represented by a "LaunchPad" icon. The [Program] item refers to an executable file which when launched creates a process on workstation 24 and/or server 22, and may include API initialization strings and other related data. The [Datafile] item refers to a data file which when launched will activate an associated application program executable file. The [Printer] item (or other "Device" item) refers to a peripheral computer device such as a printer, modem, joystick, or similar input and/or output device.

The [Ses] item specifically relates to executables, directories, and/or devices of PDF 44 and Daemon 46 which interact with the Security Enabling Services kernel features of the OS/2 operating system. Alternatively, such an item could relate to separate parts of ADMIN 36 and/or Daemon 46 which initially lock and can later unlock the file system. ADMIN 36, PDF 44, and Daemon 46 are programmed to recognize specially designated objects as "trusted applications" and allow such trusted applications access to certain system level files. As implemented by the present invention, ADMIN 36, PDF 44, and Daemon 46 also allow "Device" items to be locked and/or monitored to maintain a log file of all operations occurring on or through the device.

The [Filter] item can be used by PDF 44 when creating or operating a desktop, or by Daemon 46 during an enumeration routine. The filtering process may be implemented on a class level, or alternatively object titles may be subject to such filtering. For example, a filter item may be used to remove window list entries from a desktop without a user prompt or acknowledgment. Another use of a

filter may be to keep certain processes running during the creation or re-creation of a desktop (for example, to keep an external communication link active even though the local desktop is being rebuilt). A filter may also be used to require a password from PDF 44 or the user before invoking certain objects or classes of objects.

For objects which do not fall within one of the foregoing classes, the item designation [Object] provides a format for a user defined object, such as an abstract non-file system object. These types of abstract objects are of the .dll type, which are not necessarily with executable files rather are substantiated by the shell (often referred to as work place shell applications). Statements within this object shall be interpreted as if the statement occurred in one of the previously defined classes.

The present invention also provides two additional ways to secure the desktop, one being a hardware based restriction and the other a context based validation. The hardware based restriction is maintained by an additional file (RESTRICT.TXT) resident on the local computer which PDF 44 checks before creating desktop objects. In this manner, local computers can be configured so that certain sensitive applications cannot be created or invoked at certain physical locations, regardless of the privilege level of the user. The context based validation is a statement in a .sec file item, VPF=<path>¦<filename>, which requires that the path or file specified be present on the network before PDF 44 creates the specified desktop object.

PDF 44 thus creates a desktop which includes a graphic display of icons representing programs, files, network resources, and other related information. When the user launches a program or network resource and thereby creates a new process, PDF 44 displays a new window on the monitor of workstation 24 showing the activity of the new process. In the exemplary embodiment with a multi-tasking operating system, more than one process can appear on the desktop simultaneously. PDF 44 presents the most current window in the forefront, with the other windows accessible through a command. Also in the exemplary embodiment with an object oriented operating system, the communication and implementation of processes are achieved through the use of objects which contain the needed information for executing the process and interacting with other portions of the system. Each icon on the desktop has an associated object so that when PDF 44 observes the operator

activating a particular icon, the corresponding object may be launched and a new display window may be created.

Before PDF 44 can operate, however, the objects which PDF 44 displays must be created. The user may first required to log in to network 20 before accessing workstation 24. Daemon 46 obtains the user's desktop profile from ADMIN 36, the desktop profile being a list of objects with appropriate restrictions and privileges, which may include keys or other authentication information. In addition, ADMIN 36 may also imposed other restrictions on that desktop profile transmitted to Daemon 46 based on the physical location or node of the user logging on to network 20. That desktop profile includes general information about the restrictions and boundaries applicable to PDF 44, as well as the objects available to PDF 44. Daemon 46 also obtains local attribute information, such as the presence or absence of local peripheral devices from workstation 24. PDF 44 may then transmit requests for creation of processes to Daemon 46, which determines if the requested process is permitted according to ADMIN 36's desktop profile for that user. This arrangement allows a user to log in at any workstation 24 of network 20 and have the same desktop displayed by PDF 44.

In the second embodiment of the invention, ADMIN 36 operates to lock out any user from accessing network resources. By enabling file system level blocking, no program or process can access a network file except through the enabled security procedure which requires a previously established access privilege to have existed for the user. The .sec file 50 may contain the information needed to "unlock" the security procedure and allow a user access to the network resource. In this way, any user attempt to access a network resource without using PDF 44 will fail. Only by using PDF 44, which is enabled by an appropriate key or other authentication information in the user's .sec file 50, can a user access network resources.

The general sequence of operation is shown in the flow chart diagram of Figure 2. Workstation 24 is powered on in step 200, which may include the use of appropriate access control software. Daemon 46 obtains the parameters associated with that particular workstation 24, typically by accessing a locally stored file or performing a diagnostic routine, in step 202. For example, in the exemplary embodiment, Daemon 46 first kills any old objects which are apparent on

workstation 24. After this initial cleansing, Daemon 46 loads a binary file stored on local disk 42 which contains a set of all the possible objects for workstation 24, then hides those objects from display by PDF 44. Next Daemon 46 loads a second binary file of the active objects for workstation 24. Typically, this set of active objects includes a self-launching network log on procedure, typically involving typing in a username and password at step 204.

In accordance with the present invention, Daemon 46 may then obtain a user network profile from ADMIN Software 36 in step 206. In the second embodiment of the invention, ADMIN 36 initially blocks the user by denying all access privileges to network resources. Once Daemon 46 has the information regarding the local workstation and the user's network profile, typically by accessing .sec file 50 on server 22, PDF 44 may set up the user's desktop in step 208 by creating a list of objects representing the possible available resources, both on network 22 and workstation 24. In the second embodiment, PDF 44 may also obtain suitable access enabling information from .sec file 50 to allow the user to access security protected resources, such as a security key or other suitable authentication. At this point, workstation 24 is able to receive input from the user to initiate or interact with processes and accomplish the desired computing functions.

Daemon 46 continues to monitor the operations of workstation 24 so that the user does not modify the desktop created by PDF 44 in circumvention of the user's access and security provisions. In step 210, a timer is set so that Daemon 46 is activated periodically. In the exemplary embodiment of the invention, an interval of approximately three (3) seconds has been selected as a suitable period for activating Daemon 46 with the hardware and software being used with the inventional system. This interval is selected to check sufficiently frequently to catch violations before significant damage has occurred, without significantly reducing the efficiency and responsiveness of workstation 24. Also, this interval is adjustable by simply changing initialization parameters, without requiring reconfiguration of any other part of the system. However, one of ordinary skill understands that the periodic interval used to call Daemon 46 is dependent upon the hardware and software speed.

While the timer is running, step 212 allows the user to activate and manipulate workstation 24 as desired. During this period of operation, step 214 involves determining whether a termination condition has occurred, e.g., a user activated exit or a fatal system error, so that workstation 24 may be shut down. Should a termination condition be observed, step 222 (described in greater detail below) would then occur. In the typical case, however, processing would continue until timer interrupt step 216 occurs. The timer interrupt causes Daemon 46 to become the active program of the system, which allows Daemon 46 to check on the status of the other processes at workstation 24.

In the run Daemon 218 step, an enumeration process is conducted by the processor of workstation 24. Daemon 46 checks every process that is present in workstation 24 against the process information contained in its local copy of .sec file 50. Every process which is not found in the listing of .sec file 50 is processed further by Daemon 46, typically deleting and removing the unknown process from workstation 24. However, other operations are possible, and sometimes desired. For example, a message box may be displayed and the process may be modified according to the user's response to correspond to a known process. Another alternative may be to record the presence of the unknown process in a log for use by diagnostic software.

Known processes encountered by Daemon 46 during the enumeration routine may be dealt with in several ways. Typically, Daemon 46 checks for consistency between the process as noted by the desktop files by PDF 44 and the information from .sec file 50, making corrections when appropriate. Also, Daemon 46 checks the security protection of the process and the user for compliance with network security privileges. If an inconsistency is discovered, or a security violation, or another similar condition, then Daemon 46 may respond by: requesting a password from the user before allowing further access or processing; delete and remove the process from the desktop; record the presence of the process on a log file; rebuild the process using the original process and a user response to a message box; and/or another suitable response to the observed inconsistency. When Daemon 46 completes all of its operations on the processes of workstation 24, the timer is reset at step 210 and the foregoing steps are repeated.

Finally, when the user is ready to terminate operation of workstation 24, PDF 44 requests that the potentially modified desktop be saved in step 222. Daemon 46 receives this request, first filtering the newer desktop with the original user profile to make sure that the new desktop does not violate any of the user's profile information stored on server 22. After the new desktop has been so filtered, Daemon 46 saves the filtered new desktop by storing the representative file or files on server 22. Now, the operation of workstation 24 can be properly terminated at step 224.

Thus, the present invention provides a desktop administration system and method which allows a network administrator to remotely create, protect, and manage desktops across a network. The invention provides a graphic user interface to construct user desktops, apply restriction options, maintain transaction logs, and password protect any object accessible from the user workstation. A security kernel blocks access to resources and only allows access to resources upon receipt of a corresponding key. The desktop administration system uses information records which include a key for allowing access to resources via the security kernel. The workstation desktop includes the ability to unlock access to resources by transmitting a key to the security kernel. The invention allows these functions without altering how a user works on the desktop, or the capacities of the underlying operating system or network.

WHAT IS CLAIMED IS:

1. In a network of computers including a server and a workstation, a method of providing user access to resources, said method comprising the steps of: creating a plurality of information records each with a user specific workstation configuration including specification of accessible resources for the user; retrieving one of the user specific information records using a computer program operating on the workstation; and providing on the workstation a desktop user interface providing user access as specified by the information record associated with the user; characterized by the step of blocking user access to resources via a security kernel, wherein said information records include a key for only allowing user access to resources via said security kernel, and by the step of allowing user access to resources upon receipt of a corresponding key from said desktop user interface.

2. The method of Claim 1 characterized by the step of monitoring processes initiated by the desktop user interface.

3. The method of Claim 2 characterized in that said monitoring step includes the step of checking processes on the workstation against the user specific information record received from the server.

4. The method of Claim 1 characterized by the step of preventing unauthorized access to the network resources through said desktop.

5. The method of Claim 1 characterized by the step of imposing access restrictions based on information stored on the workstation.

6. The method of Claim 1 characterized by the step of requiring that a user have access to a validation resource before allowing access to a specified resource.

7. The method of Claim 1 characterized in that the network uses an object oriented operating system, each object including a plurality of instructions and associated data, further characterized by the step of creating a list of objects representing the resources.

8. The method of Claim 1 characterized by the step of storing said desktop after a session with a user.

9. The method of Claim 1 characterized in that said providing step includes the step of filtering said desktop according to criteria received from the server.

10. A machine-readable program storage device for storing encoded instructions for a method of providing user access to resources in a network of computers including a server and a workstation according to the method of Claim 1.

11. A computer network for providing user access to resources including at least one of local and network computer programs, local and network peripheral devices, and external communication devices, said network comprising: a server; a plurality of workstations coupled to said server, each said workstation including display means for providing a graphic user interface for a user; and communication means for transmitting messages between said server and said plurality of workstations; characterized by said computer network including instructions for operating according to the method of Claim 1.

12. A computer network for providing user access to resources including at least one of local and network computer programs, local and network peripheral devices, and external communication devices, said network comprising: a server; a plurality of workstations coupled to said server, each said workstation including display means for providing a graphic user interface for a user; and communication means for transmitting messages between said server and said plurality of workstations; said server including means for providing access to at least one resource for a user, said user operating one of said workstations, said server including a plurality of information records each with a user specific workstation configuration including specification of accessible resources for the user; said workstation including desktop means for creating and displaying items referencing resources on a display means of the workstation, said desktop means including means for retrieving one of said information records from said server, said desktop means further including means for preventing a user from accessing any resources not specified by said retrieved information record; said computer network characterized by said server including a security kernel for blocking user access to resources and only allowing user access to resources upon receipt of a corresponding key, said information records including one of said keys for allowing

user access to resources via said security kernel, and said desktop means including means for unlocking uservaccess to said resources by transmitting one of said keys to said security kernel.

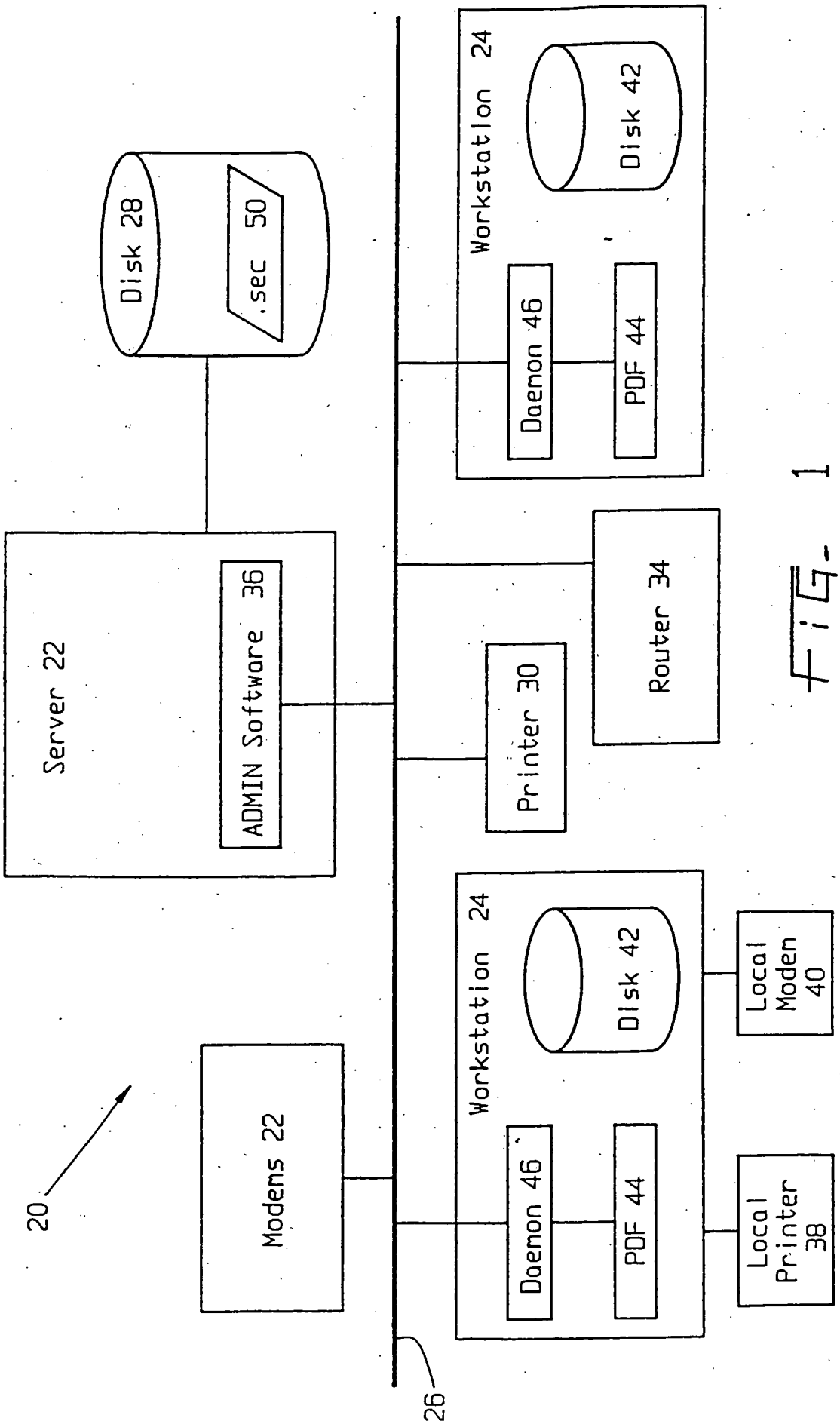
Disk 28
.sec 50
Workstation 24
Disk 42
Daemon 46
PDF 44
Server 22
ADMIN Software 36
Printer 30
Router 34
Workstation 24
Disk 42
Local Modem 40
Modems 22
Daemon 46
PDF 44
Local Printer 38
20
26

FIG. 1

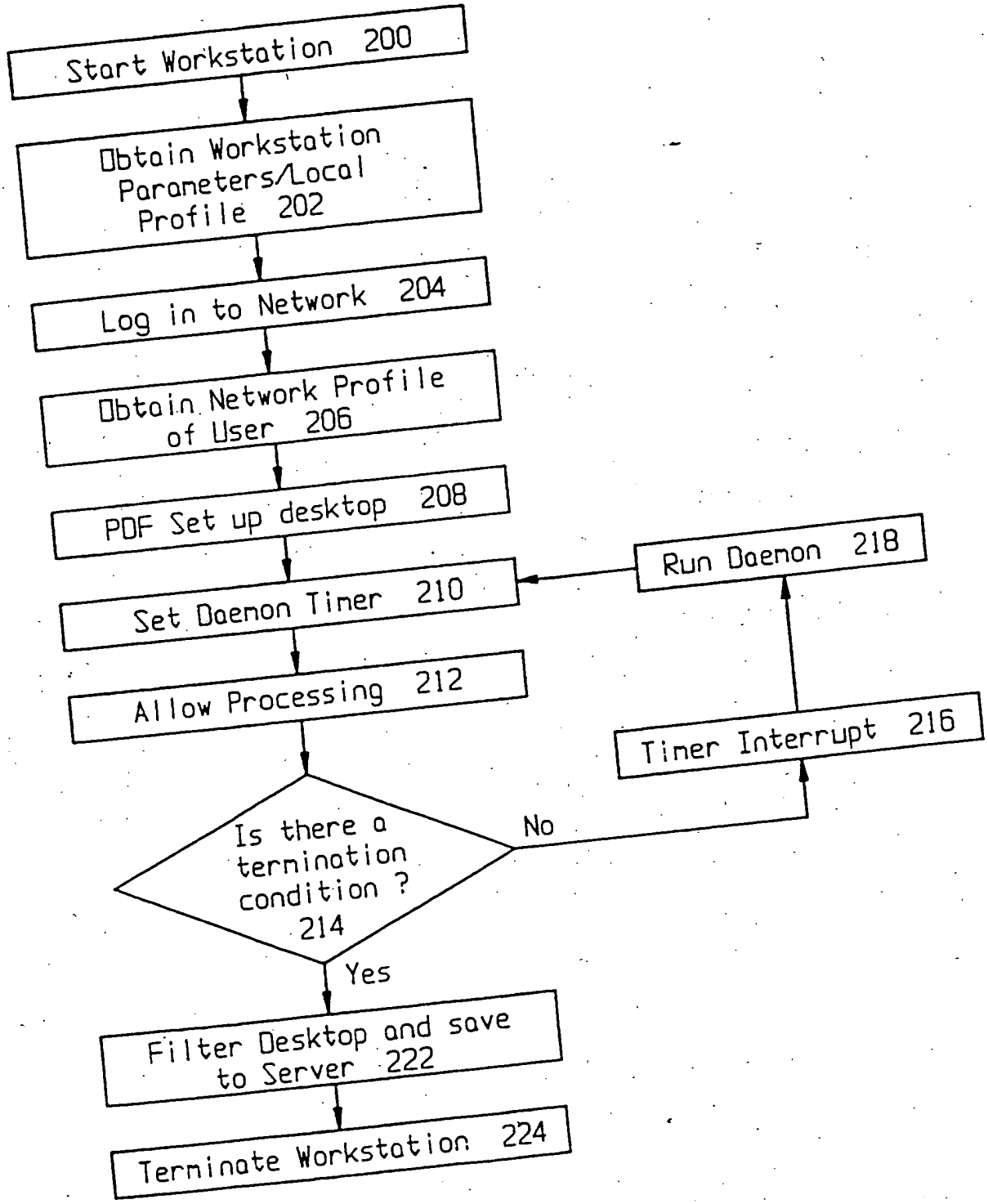

FIG. 2

PLEASE ACKNOWLEDGE AND RETURN

CERTIFICATE OF EXPRESS MAIL NO. ____________

DATE MAILED 10-26-99 ____ DATE DUE: ____________

____ APPLICATION	____ AMEND. & TRANS. FORM
____ DECLARATION	✓ IDS & FORM PTO 1449 + refs
____ ASSIG MENT & PTO 1559	____ PET. FOR EXT. OF TIME
____ DRAWINGS ____	____ ISSUE FEE
____ MISSING PARTS	✓ CERT. OF MAILING
____ OTHER ____	✓ Copy International Search Report

DOCKET CP998041 ____ SER. NO. 09/072,597

INTL. FILING DATE: ____ INTL. APPLN. NO. ____

IN RE APPLICATION OF: K Hayes, et al

TITLE OF APPLICATION Client-Server System for Maintaining a User Desktop Consistent

PGS. OF SPEC: ____ NO. OF CLAIMS ____ SHTS OF DWGS: ____

TOTAL CHARGES: 0 ____ DEPOSIT ACCT. NO. 09-0461

ATTORNEY: JHE

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTY DOCKET NO.: 5577-130DV
DATE: May 31, 2001

UTILITY PATENT APPLICATION TRANSMITTAL LETTER AND FEE TRANSMITTAL FORM (37 CFR 1.53(b))

BOX PATENT APPLICATION
Commissioner for Patents
Washington, DC 20231

Sir:

Transmitted herewith for filing under 37 CFR 1.53(b) is:
☐ a patent application
☐ a Continuation ☒ a Divisional ☐ a Continuation-in-Part (CIP)
of prior application no.: **09/211,528**; filed **December 14, 1998**.
☐ A Small Entity Statement(s) was filed in the prior application; Status still proper and desired.

Inventor(s) or Application Identifier:

David E. Cox **Raleigh, North Carolina**	**Kent F. Hayes** **Chapel Hill, North Carolina**	**David B. Lindquist** **Raleigh, North Carolina**
John R. McGarvey **Apex, North Carolina**	**Abdi Salahshour** **Raleigh, North Carolina**	

Entitled: **METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK**

Enclosed are:
1. ☒ Application Transmittal Letter and Fee Transmittal Form *(A duplicate is enclosed for fee processing)*
2. ☒ 41 pages of Specification (including 23 claims)
3. ☒ 9 sheets of Formal Drawings (35 USC 113)
4. ☒ Oath or Declaration
   a. ☐ newly executed *(original or copy)*
   b. ☒ copy from prior application (37 CFR 1.63(d) *(for continuation/divisional)* **[Note Box 5 Below]**
   c. ☐ DELETION OF INVENTOR(S) *(Signed statement deleting inventor(s) named in the prior application)*
5. ☒ Incorporation By Reference *(useable if box 4b is checked)*
   The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein
6. ☐ Microfiche Computer Program *(Appendix)*
7. ☒ Assignment papers *(cover sheet(s) and document(s)* **Filed in parent application**
8. ☐ Small Entity Statement(s)
9. ☒ Information Disclosure Statement, PTO-1449, and 34 references cited (copies of 27 refs. only)
10. ☒ Preliminary Amendment ***(Please enter all claim amendments prior to calculating the filing fee.)***

11. ☐ English Translation Document
12. ☐ Certified Copy of
13. ☐ Sequence Listing/ Sequence Listing Diskette
    a. ☐ computer readable copy
    b. ☐ paper copy
    c. ☐ statement in support
14. ☐ An Associate Power of Attorney
15. ☒ Return Receipt Postcard (MPEP 503) *(Should be specifically itemized)*
16. ☐ Other:

The fee has been calculated as shown below:

	Column 1 No. Filed	Column 2 No. Extra	Small Entity Rate Fee	Large Entity Rate Fee
BASIC FEE			$355.00	$710.00
TOTAL CLAIMS	15- 20 =	0	x 09 = $	x 18 = $
INDEP CLAIMS	3 - 3 =	0	x 40 = $	x 80 = $0
☐ MULTIPLE Dependent Claims Presented			+ 135 = $	+ 270 = $
If the difference in Col. 1 is less than zero, Enter "0" in Col. 2			Total $	Total $710.00

☐ A check in the amount of $ to cover the filing fee is enclosed.

☒ Please charge Deposit Account No. 09-0461 in the amount of $710.00.

☒ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 09-0461.

☒ Any additional filing fees required under 37 CFR 1.16.

☒ Any patent application processing fees under 37 CFR 1.17.

Respectfully submitted,

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Michele P. McMahan
May 31, 2001

Attorney's Docket No. 5577-130DV PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Divisional of David E. Cox et al.
Serial No.: To Be Assigned
Filed: Concurrently Herewith
For: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK

May 31, 2001

BOX PATENT APPLICATION
Commissioner for Patents
Washington, DC 20231

PRELIMINARY AMENDMENT

Dear Sirs:

Please amend the above-identified application as follows:

IN THE SPECIFICATION:

On page 1 and above the abstract on page 41, please replace the title with the following new title:

-- METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK --

Please insert at page 1 the following new first paragraph:

This application is a divisional of Application Serial No. 09/211,528 filed December 4, 1998. This application is related to the following application filed concurrently herewith: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR MANAGEMENT OF CONFIGURABLE APPLICATION PROGRAMS ON A NETWORK, Attorney Docket Number 5577-106. This application is also related to United States Patent Application No. 09/072,597 filed May 5, 1998 and entitled: Client-Server System for Maintaining a user Desktop Consistent with Server Application User Access Permissions which is incorporated herein by reference in its entirety.

IN THE CLAIMS:

Please cancel Claims 1-14, 21 and 23 as these claims remain pending in the parent application as elected responsive to a restriction requirement.

Please add the following new claims:

--24. (New) A system according to Claim 20 wherein the network management server is a Tivoli™ server.

25. (New) A system according to Claim 24 wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target station.

26. (New) A system according to Claim 24 wherein the application program is provided as a JAVA™ applet and wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target station inserts its identification during registration operations.

27. (New) A system according to Claim 26 wherein the means for distributing comprises means for distributing the file packet to a plurality of target stations each having an identification which may be inserted into the variable field at the target station.

28. (New) A computer program product according to Claim 22 wherein the network management server is a Tivoli™ server.

29. (New) A computer program product according to Claim 28 wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target station.

30. (New) A computer program product according to Claim 28 wherein the application program is provided as a JAVA™ applet and wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target station inserts its identification during registration operations.

31. (New) A computer program product according to Claim 30 wherein the computer readable program code means for distributing comprises computer readable program code means for distributing the file packet to a plurality of target stations each having an identification which may be inserted into the variable field at the target station.--

REMARKS

The present divisional application is being filed to cover non-elected Claims 15-20 and 22 from the pending parent application. The newly added claims are system and computer program product claims generally corresponding to dependent method Claims 16-19.

Favorable examination and allowance of the present application is respectfully requested.

Respectfully submitted,

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Michele P. McMahan
Date of Signature: May 31, 2001

Version With Markings To Show Changes Made

IN THE SPECIFICATION:

On page 1 and above the abstract on page 41, please replace the title with the following new title:

-- METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR DISTRIBUTION OF APPLICATION PROGRAMS TO A TARGET STATION ON A NETWORK [CENTRALIZED MANAGEMENT OF APPLICATION PROGRAMS ON A NETWORK]--

Please insert at page 1 the following new first paragraph:

This application is a divisional of Application Serial No. 09/211,528 filed December 4, 1998. This application is related to the following application filed concurrently herewith: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR MANAGEMENT OF CONFIGURABLE APPLICATION PROGRAMS ON A NETWORK, Attorney Docket Number 5577-106. This application is also related to United States Patent Application No. 09/072,597 filed May 5, 1998 and entitled: Client-Server System for Maintaining a user Desktop Consistent with Server Application User Access Permissions which is incorporated herein by reference in its entirety

METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR CENTRALIZED MANAGEMENT OF APPLICATION PROGRAMS ON A NETWORK

Cross Reference to Related Applications

This application is related to the following application filed concurrently herewith: METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR MANAGEMENT OF CONFIGURABLE APPLICATION PROGRAMS ON A NETWORK, Attorney Docket Number 5577-106. This application is also related to United States Patent Application No. 09/072,597 filed May 5, 1998 and entitled: Client-Server System for Maintaining a user Desktop Consistent with Server Application User Access Permissions which is incorporated herein by reference in its entirety.

Field of the Invention

The present invention relates to network management in general and in particular to application program management on a computer network.

Background of the Invention

Traditional mainframe computer configurations provided for user interface to the computer through computer terminals which were directly connected by wires to ports of the mainframe computer. As computing technology has evolved, processing power has typically evolved from a central processing center with a

distribution feature which may be used to transmit a file package to client and server stations on a network from a central Tivoli™ server.

A further complication in network systems is that, typically, these systems include combinations of network applications and native applications as well as combinations of different connection types and hardware devices. As used herein "native applications" refers to applications which are installed locally on a workstation such that characteristics associated with the native application are stored on the workstation. The combinations of network connections, differing hardware, native applications and network applications makes portability of preferences or operating environment characteristics which provide consistency from workstation to workstation difficult. Furthermore, differences in hardware or connections may create inefficiencies as users move from workstation to workstation. For example, a user may, in a first session, access the network utilizing a high speed connection and a workstation with a high resolution color monitor to execute an application and then, in a later session, access the network to execute the same application from a mobile computer with a monochrome display and a low speed modem connection to the network. Thus, session content, such as color display data or preferences associated with the application, which may have been appropriate for the first session may be inappropriate or inefficient in a later session.

Efforts to address mobility of users in a network have included efforts to provide preference mobility such as, for example, Novell's Z.E.N.works™, Microsoft's "Zero Administration" initiative for Windows® and International Business Machines Corporation's (IBM's) Workspace On Demand™. However, these solutions each typically require pre-installation of software at the workstation to support their services. For example, Novell's Z.E.N. and IBM's Workspace On Demand utilize a designer-supplied support layer in the operating system to enable their services. In addition to modifying the workstations operating system at startup to setup tasks to customize the user's environment, the Microsoft Zero Administration solution is typically limited to a homogeneous (Windows® only)

number of relatively low-processing power terminals to a distributed environment of networked processors. Examples of this shift in processing include local or wide area computer networks which interconnect individual work stations where each workstation has substantial independent processing capabilities. This shift may be further seen in the popularity of the Internet which interconnects many processors and networks of processors through devices such as, for example, routers. This type of network environment is often referred to as a client-server environment with client stations coupled to and supported by a server station.

In the modern distributed processing computer environment, control over software, such as application programs, is more difficult than where a mainframe operated by an administrator is used, particularly for large organizations with numerous client stations and servers distributed widely geographically and utilized by a large number of users. Furthermore, individual users may move from location to location and need to access the network from different client stations at different times. The networked environment increases the challenges for a network administrator in maintaining proper licenses for existing software and deploying new or updated applications programs across the network.

One approach to reducing software distribution and control problems is to use an application server in which the application programs are installed and maintained on a centralized server which supports a plurality of client stations (sometimes referred to as a client/server application as contrasted to a desktop application). In addition, the Systems Management Server (SMS) program from Microsoft Corporation provides an ability to transmit an application program from a server to a number of clients. The SMS system typically allows installation of programs and associated icons at client stations for SMS-enabled applications. A customized install generally must be created by a system administrator for each different version to be installed. Furthermore, once installed at a client, a user must typically use that specific client station. The application generally cannot be automatically deleted from the client station's desktop or automatically upgraded the next time the user starts the application. Similarly, the Tivoli Management Environment (TME) 10™ system from Tivoli Systems, Inc. provides a software

environment where the workstation and the server are utilizing the same operating system.

Another approach to centralized management is the traditional mainframe model, such as with the IBM 3270 system, or an X Windows environment. However, in each of these approaches, the client device is treated as a dumb terminal with execution of the applications occurring at the server rather than the client. Accordingly, the communication between the server and the client is typically presenting characters for a display screen of the client and/or receiving key strokes from the client. Windows Zero Administration, as described above, is client rather than user oriented and installs applications on client stations which does not fully support roaming by users. The JAVA™ environment utilized on the Internet for web applications provides an ability for hardware independent application development but fails to provide an integrated framework for presenting multiple independent applications to a user. While various web applications, such as the Netscape Mission Control desktop, do allow personalizing of a specific application display by a user, this capability is generally not managed across applications for a user. Furthermore, it typically associates personalized screen information with an Internet address (and sometimes a "cookie" installed at the client) which is associated with a client device rather than a user, therefore limiting its ability to support roaming by users.

Each of these "mobility" systems typically do not address the full range of complications which may arise in a heterogeneous network utilizing differing devices and connections. The system typically will not present application choices associated with the user and for which the user is authorized but instead present information associated with the particular client workstation. Users would typically have to manually define session characteristics at each differing workstation they used in the network or maintain local characteristic definitions which may be inappropriate for particular applications a user is executing and may substantially reduced the administrative convenience of a centrally controlled network. Thus, these various approaches fail to provide a seamless integration of application access and session characteristics across heterogeneous networks.

Such solutions may, at most, reduce network administration only after initial installation on each workstation. In addition, control over access by users is difficult to accomplish in a mobile environment.

Furthermore, these various approaches have, at most, only limited capabilities to provide a uniform framework for deployment of new or updated application programs from different software designers. To the extent software distribution capabilities from a central location are provided, such as with the TME 10™ system, they typically require various steps in the installation process to occur at different locations rather than allowing the entire process to be controlled from a single point for an entire managed network environment.

Summary of the Invention

Accordingly, it is an object of the present invention to provide methods, systems and computer program products for centralized management of application programs on a computer network.

It is a further object of the present invention to provide such methods, systems and computer program products that are user based across various hardware interface devices.

It is another object of the present invention to provide such methods, systems and computer program products that provide for software deployment from a central administrative server location across a plurality of client stations.

It is a further object of the present invention to provide such methods, systems and computer program products that can accommodate various types of hardware operating under different operating systems across client stations.

These and other objects are provided, according to the present invention, by providing methods, systems and computer program products for management of application programs on a network including a server supporting client stations. The server provides applications on-demand to a user logging in to a client supported by the server. Mobility is provided to the user and hardware portability is provided by establishing a user desktop interface responsive to a login request which presents to the user a desktop screen through a web browser interface. The

desktop accesses and downloads selected application programs from the server responsive to a request from the user, such as the selection of an icon associated with the application program which is displayed on the user desktop screen at the client. The application program is then provided from the server and executed at the client. The application program may further be customized to conform to the user's preferences and may also provide for license use management by determining license availability before initiating execution of the application program. Accordingly, applications are provided on-demand to users independent of the device used to access the server.

Centralized control of software distribution is also provided for a network management server managed computer network such as a Tivoli™ environment. Application programs are distributed as file packages (packets) to on-demand servers. A profile manager import call is included in the distributed file packet along with an import text file containing the data required to properly install and register the application program on the on-demand server and make it available to authorized users. Settable on-demand server identifier fields are included to allow a plurality of on-demand servers to receive a common file packet and properly install and register the program for use locally.

In one embodiment of the present invention, a method for management of application programs on a network including a server and a client is provided. A plurality of application programs are installed at the server. The plurality of application programs may be installed on a network drive accessible to the server. A login request initiating a session is received from a user through an application executing at the client. A user desktop interface is then established at the client associated with the user responsive to the login request from the user. The desktop interface includes a plurality of display regions associated with a set of the plurality of application programs installed at the server for which the user is authorized. The server receives a selection of one of the plurality of application programs from the user desktop interface and provides an instance of the selected one of the plurality of application programs to the client for execution responsive to the selection.

In a further embodiment, application management information for the plurality of applications is maintained at the server and a plurality of display regions associated with a set of the plurality of application programs for which the user is authorized is included responsive to the application management information. In a further embodiment of the present invention, application launcher programs associated with each of the set of the plurality of application programs for which the user is authorized are distributed to the client and selections of programs are received from one of the application launcher programs which is associated with the selected one of the plurality of application programs. The application launcher programs may be provided as JAVA™ applets and the user desktop interface may be provided as a web browser The application management information may include configurable user preference information for the plurality of application programs and a set of the configurable user preference information associated with the user and the selected one of the plurality of application programs may be provided to the client for use in executing the instance of the application program. The set of the configurable user preference information may include both user preferences configurable by the user and user preferences not configurable by the user which are configurable by an administrator. The user preference information may be updated responsive to updates from the user and the administrator respectively.

In another embodiment of the present invention, the user desktop interface is configured at the server responsive to an identifier of the user associated with the login request so as to provide a configured user desktop interface. The configured user desktop interface is then provided to the client for display. The user desktop may be configured not to include display regions associated with any of the plurality of application programs installed at the server for which the user is not authorized.

In another aspect of the present invention, a license availability is determined for the selected one of the plurality of application programs for the user. License availability for the user desktop application itself may also be determined. An unavailability indication is provided to the client responsive to the

selection if the license availability indicates that a license is not available for the user. The license availability may be determined by the one of the application launcher programs associated with the selected one of the plurality of application programs which may obtain the license availability from a license management server. The license management server may run on the same machine as the on demand application server.

In a further aspect of the present invention, event logging information is received at the server from the instance of the selected one of the plurality of application programs. The server provides the received event logging information to a network management server associated with the server. In addition, event logging information may be provided to the user desktop application.

In yet another aspect of the present invention, methods are provided for distribution of application programs to a target station on a network from a centralized network management server coupled to the network. The application program to be distributed is provided to the systems (network) management server and a source directory and a target directory for distribution of the application program are specified. A file packet associated with the application program is prepared including a segment configured to initiate registration operations for the application program at the target station. The file packet is then distributed to the target station or stations. In one embodiment, the network management server is a Tivoli™ server. The segment configured to initiate registration operations may include an import data file and a call to an import program executing on the target station.

In one embodiment of the software distribution aspect of the present invention, the application program is provided as a JAVA™ applet and is registered based on a Universal Resource Locator (URL) address accessible to a browser application. The segment configured to initiate registration operations includes a variable field into which the target station inserts its identification during registration operations. The file packet may be distributed to a plurality of target stations each having an identification which may be inserted into the variable field at the target station.

While the invention has been described above primarily with respect to the method aspects of the invention, both systems and computer program products are also provided.

Accordingly, the present invention provides for management of application programs in a network environment from a central location while allowing for user preferences to be maintained independent of hardware location of the user along with centralized distribution of new and/or updated application programs. This provides for reduced costs and increased uniformity in deploying software in a network environment. It further provides an essentially hardware transparent ability for an individual user to interface to an on-demand server supported client station while maintaining the user's personal preferences for each application program.

Brief Description of the Drawings

FIG. 1 is a schematic diagram of a computer network with application program management according to an embodiment of the present invention;

FIG. 2 is a schematic diagram of an on-demand server system according to an embodiment of the present invention;

FIG. 3 is a schematic diagram of the on-demand server system of **FIG. 2** according to an embodiment of the present invention;

FIG. 4 is a flowchart illustrating operations for application program distribution and execution according to an embodiment of the present invention;

FIG. 5 is a flowchart illustrating configuration operations for application program distribution and execution according to an embodiment of the present invention;

FIG. 6 is a flowchart illustrating user login operations for application program distribution and execution according to an embodiment of the present invention;

FIG. 7 is a flowchart illustrating application access operations for application program distribution and execution according to an embodiment of the present invention;

FIG. 8 is a flowchart illustrating operations for application program distribution and execution in a network management server environment such as a Tivoli™ environment according to an embodiment of the present invention;

FIGS. 9A, 9B and **9C** are flowcharts further illustrating operations for application program distribution and execution according to an embodiment of the present invention; and

FIG. 10 is an illustration of an interface screen used in centralized software deployment according to an embodiment of the present invention.

Detailed Description of Preferred Embodiments

The present invention now will be described more fully hereinafter with reference to the accompanying drawings, in which preferred embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. As will be appreciated by one of skill in the art, the present invention may be embodied as methods, systems or computer program products. Accordingly, the present invention may take the form of a hardware embodiment, a software embodiment or an embodiment combining software and hardware aspects.

FIG. 1 illustrates an embodiment of a computer network including configurable application program management capabilities according to an embodiment of the present invention. Computer network system **10** includes a network management server such as a Tivoli™ server **20** and on-demand servers **22, 22'**. As used herein, "on-demand" refers to a server delivering applications as needed responsive to user requests as requests are received. System **10** further includes client stations **24, 24', 26, 26'**. As illustrated, on-demand servers **22, 22'** are connected to Tivoli™ server **20** over a first network segment **10'**. Client stations **24, 24'** are served by on-demand server **22** and communicate over network **10''**. Similarly, clients **26, 26'** are served by server **22'** and communicate over network **10'''**. As schematically illustrated in **FIG. 1**, client stations **24, 24', 26,**

26' may be a variety of different hardware operating a variety of different operating systems.

System **10**, as illustrated in **FIG. 1**, is a centrally managed computer network with Tivoli™ server **20** acting as the central administration station executing network management software such as TME 10™ from Tivoli Systems, Inc. Servers **22, 22'** act as on-demand servers for their respective associated client stations **24, 24', 26, 26'** and provide for client/server application support. It is further to be understood that networks **10', 10'', 10'''** may be separate physical networks, separate partitions of a single physical network or may be a single network. Furthermore, Tivoli™ server **20** may be configured to allow for direct communication between server **20** and clients **24, 24', 26, 26'**. In addition, a single machine may be configured to include a client, an on-demand server and/or a network (system) management server.

As will be described further herein with reference to the flowcharts, Tivoli™ server **20** provides a means for software distribution and management in computer network system **10**. Furthermore, on-demand servers **22, 22'** each provide an application management system for managing configurable application programs using both user and administrative preferences for various application programs. More particularly, as described in the embodiments herein, on-demand servers **22, 22'** are configured to operate within the eNetwork™ environment available from International Business Machines Corporation (IBM). As will be further discussed herein, the present invention provides for an integration of an on-demand server as described herein in the IBM eNetwork™ environment with the TME 10™ system to provide for centralized control of software applications including the capability for supporting separate user and administration preference parameters. However, while the present invention may be implemented in the Tivoli™ environment, it is also suitable for use with other network management environments. Configurable preference management (and license use management) operations suitable for use with the present invention are described in United States Patent Application No. _____ (attorney docket number 5577-106) entitled Methods, Systems and Computer Program Products for Management

of Configurable Application Programs on a Network, which is incorporated herein by reference in its entirety.

FIG. 2 illustrates an embodiment of an on-demand server according to the present invention. As shown in **FIG. 2**, the server system **22** of the present invention includes client management server **204** and access to a storage device for maintaining an application management database **208**. While illustrated in **FIG. 2** as an integrated part of system **22**, database **208** may be a separate device so long as it is available to server system **22**. In the illustrated embodiment which will be described herein, client management server **204** includes web server **206** providing an interface to an administrator user such as that illustrated by administrator console **200** and to users interfacing to the system through client stations such as the illustrated user console **202**. Database **208** acts as a central repository of application management information, such as user, software, device, preference and access control information, responsive to client management server **204**.

Client management server capabilities may be further broken down within client management server **204**. For example, client management server **204**, may be implemented in a JAVA™ environment with various applets or servlets where the term servlets generally refers to server-side JAVA™ programs each of which provides a particular function. For example, an application server servlet may control user application access through client management server **204** by receiving requests from web server **206**. Various additional servlets could support controlling access to database **208**, providing centralized preference management, centralized license use management and error logging and tracing.

User console **202** provides an end user client desktop. As will be described further herein, the desktop provides a task bar (to switch between active applications) and a launch panel with icons for the applications that the user is authorized to access. Pursuant to the control of client management server **204**, the user desktop automatically provides icons for those applications that the user is authorized to use including automatically adding icons for new applications that the user is authorized to access when the new applications become available without any action required on the part of the end user.

Administrator console **200** provides a modified desktop interface for an administrator authorized user. The administrator desktop is preferably provided by a configuration management servlet which allows a user with administrative authority to modify system parameters and settings. Functions typically provided through the administrator console **200** could include adding or modifying users, user groups, software, customizing applications for users or groups, and granting or denying application access to certain users or groups.

Independent software designers provide various applications configured to benefit from the capabilities of server system **22**. A software designer may utilize a particular version of server system **22** which includes a tool kit of functions for establishing preference management, license use management and error logging and tracing aspects unique to the specific application being provided by the software designer. The software designer utilizes the tool kit of functions in developing one or more JAVA™-based web applications (such as a word processor, emulator, calendar program, etc.) where the on-demand server tool kit functions expand the application's capabilities by allowing implementation of centralized preference storage and retrieval, centralized license tracking, and centralized error and event reporting, and centralized distribution for a particular application. For each application, the software designer preferably produces both an end-user application, used by typical end-users, and an administrative or configuration application, used only by administrators. The configuration application allows configuration of preferences that end-users will not be allowed to modify. The software designer also preferably provides a set of default preferences for each application so that the application is usable with or without any customization by administrators or end users.

A customer utilizing the server system **22** of the present invention may then purchase applications from software designers who have provided on-demand server capabilities in their applications. As will be further described with reference to the flowcharts, an administrator then defines users and groups of users that will have access to the applications installed on the server and installs the software defining it to the database **208** on server system **22**. The administrator may also

then perform any desired customization of preferences (using the configuration management application) for global defaults, specific groups, or specific users. The administrator further then may authorize certain groups or users to access the application. The database is updated so that when individual users next bring up their end-user client desktop, they will be provided an icon that may be used to launch the new application.

The application may also be provided the capability to retrieve its preferences (such as default fonts, target systems, screen colors, etc.) from the server database **208**, register licenses through client management server **204** and log any error events through client management server **204**. The administrator further can change preferences, monitor or enforce license usage, and diagnose errors for any user from the configuration management application executing on any support or client workstation such as console **200**.

Administrator console **200** in the illustrated embodiment utilizes a JAVA™ capable browser, or desktop, for the user interface to interact with client management server **204**. The configuration framework for the system, enabled by a JAVA™ applet, identifies manageable components, preferably utilizing a graphical tree representation of users/groups, application and machines. The administrator console **200** enables the definition and administration of users, groups of users, applications and machines. Once defined, users may be granted access to applications and the applications may be customized for user preferences, group preferences, and system-wide default preferences. Similarly, machine configurations may be defined for network computers and managed personal computers or other devices communicating over the network served by server system **22**.

User console **202** provides client access services which provide an interface to request execution of instances of an application on console **202** whether it is a full function personal computing device or a network computer. Network computers functioning as user console **202** are initialized by configuring network access and then downloading a small kernel to initialize the operating environment of the network computer **202**. The network computer machine environment is then

further customized based on device configuration information provided by a client access services function. In a JAVA™ environment, the client access services function is preferably provided by a browser application presenting a user desktop window. The applications (and associated application launchers) are also provided as applets. It is further to be understood that, in the JAVA™ environment, currently available web browser applications are known to those of skill in the art which provide a user interface and allow hardware independent communication such as that currently specified by Internet protocols. Thus, the application launcher programs may be applets which display the icon which are associated with a web browser Universal Resource Locator (URL) which points to the location of the applet to be executed. Upon selection of the icon displayed by the application launcher, the selected application is "launched" by requesting the URL of the application from the on-demand server. Such requests may be made utilizing conventional Hyper-Text Transfer Protocol (HTTP) communications or other suitable protocols.

For both network computers or managed personal computers, once the machine environment is initialized, the user may log on to the network client management environment provided by server system **22** for authentication. User authentication allows the selection of the appropriate context (individual, group, default) for the desktop to be provided to console **202**. For example, icon displays may be selected for inclusion in the desktop based on whether a particular user is an authorized user for the associated applications. In addition, any specific user preferences for the desktop interface (to the network management environment of the present invention) may be applied.

Referring now to **FIG. 3**, the network client management environment provided by server system **22** will now be further described. Client management server **204** provides for the centralized management of network client machine preferences, application access and application preferences. Software services, hosted by JAVA™ servlets operating on web servers, store and retrieve the management information requested by clients or administrators through the framework architecture as illustrated in **FIG. 3**. The framework architecture of the

illustrated embodiment of **FIG. 3** leverages JAVA™ servlets on the client management server **204** and JAVA™ applets and JAVA™ beans on the client interface in the administrator console **200** to maximize the ease with which new elements may be managed. Management information is maintained in database **208** through a network registry which may be based, for example, on the Lotus registry (single-server) or Lightweight Directory Access Protocol (LDAP) for a multiple-server environment, such as the IBM eNetwork™ Directory Server, to support the distributed capabilities provided by server system **22**.

As shown in **FIG. 3**, communications with client management server **204** are provided through applications including web server **206** and, either directly or indirectly, with servlets **208**. As illustrated in **FIG. 3**, there are 5 specific servlets performing different network management functions. The configuration management component **210** provides configuration tasks which are performed for users, machines and applications. For user and group support, configuration management component **210** preferably provides the ability to create, modify, and delete users and groups of users as well as the ability to configure services and preferences for users in groups. Machine support preferably includes the ability to configure preferences for client machines, groups of machines (optionally defined by profiles) and machine platforms (for example, network stations or network computers). Configuration management component **210** further provides login support for user authentication and mapping to a user profile and software support to configure the software (applets and applications) users and groups for access to and the user preferences for those software applications.

The configuration management component supports the configuration framework on the administration console **200** as well. This console provides a common, centralized user interface on which configuration management tasks for services for the particular server system **22** occur. When access to configuration management is provided through a JAVA™-enabled web browser, access to multiple servers is possible from a single administration station **200**. The configuration framework **224** preferably minimizes the costs of administering services by maximizing the simplicity and consistency of the specific configuration

tasks. The primary user of this component is typically the system administrator or others with administrator authority.

User authorization **212** provides control over which applications may be accessed by a particular user or group. User authorization component **212** preferably provides security by authenticating users securely rather than transmitting plain text passwords. Furthermore, client software may be provided with the ability to verify the integrity of applets delivered from the server to insure that they are free of viruses and have not been modified during delivery. Access to various application applets may be controlled, consistent with the permissions granted by administrators, using the configuration framework interface **224** at the administration console **200**. Access to the server system **22** through configuration framework **224** may be limited to administrator authority users.

Hardware inventory component **214** provides for modification of applications as necessary to adapt to the type of hardware and/or operating system from which a user is requesting execution of an instance of an application (*i.e.* device specific characteristics). System management component **218** provides similar capabilities at a network management level. System management component **218** may further be provided to allow Tivoli™ ready system administration by acting as an agent to extend Tivoli™ management and control to clients supported by server system **22**. As will be described further herein, integration may provide for software distribution, event logging support, remote operation and distributed monitoring through a network management server **20**. Examples of systems utilizing operating environment information to establish preferences or modify content are described in United States Patent Application No. _____ (attorney docket number 5577-104) entitled Methods, Systems and Computer Program Products for Management of Preferences in a Heterogeneous Computing Environment, and United States Patent Application No. _____ (attorney docket number 5577-108) entitled Methods, Systems and Computer Program Products for Policy Based Network Control of Characteristics of User Sessions, which are incorporated herein by reference in their entirety.

Finally, license management component **216** may be utilized to monitor the usage of applications executing as JAVA™ applets to insure that the usage is within specified guidelines. The license management component **216** may be provided as a JAVA™ bean which provides status information to a license management JAVA™ servlet. The servlet then sends the appropriate management information to a license management server which may be integrated within server system **22** or maintained in a separate device. The license management component **216** thereby provides a convenient tool for tracking the usage of specified applications.

As also shown in **FIG. 3**, administrator console **200** includes web browser **222** and configuration framework **224**. Web browser **222** provides a base for administrator console **200**. Configuration framework **224** is preferably provided as a JAVA™ applet. The console **200** thereby provides a common, centralized user interface on which configuration management tasks for services for the particular server system **22** occur. As described previously, by providing configuration framework **224** interfacing through JAVA™-enabled web browser **222**, access to multiple server systems **22** is possible from a single administration console station **200**. Client interface **202** is similarly provided as a desktop interface on the user console regardless of device type. Similarly to administrator console **200,** client interface **202** includes a JAVA™-enabled web browser or desktop **226** which provides, for example, an operating environment for network-client applications. A given user may, therefore, move among various machines so long as the console has access to the server system **22** which has the user's information. The available applications on the user desktop **226** are defined by system server **22** as described previously and will be further described with reference to the flowcharts. User console **202** preferably accesses client management server **204** using JAVA™ beans and/or Application Program Interfaces (APIs). Client access component **228** is preferably provided by JAVA™ beans and APIs within the framework of the network client environment provided by server system **22** allowing access to configuration information, license management and event logging.

Operations of the present invention will now be described with respect to the flowcharts of **FIGS. 4** through **9C**. It will be understood that each block of the flowchart illustrations, and combinations of blocks in the flowchart illustrations, can be implemented by computer program instructions. These program instructions may be provided to a processor to produce a machine, such that the instructions which execute on the processor create means for implementing the functions specified in the flowchart block or blocks. The computer program instructions may be executed by a processor to cause a series of operational steps to be performed by the processor to produce a computer implemented process such that the instructions which execute on the processor provide steps for implementing the functions specified in the flowchart block or blocks.

Accordingly, blocks of the flowchart illustrations support combinations of means for performing the specified functions, combinations of steps for performing the specified functions and program instruction means for performing the specified functions. It will also be understood that each block of the flowchart illustrations, and combinations of blocks in the flowchart illustrations, can be implemented by special purpose hardware-based systems which perform the specified functions or steps, or combinations of special purpose hardware and computer instructions.

Referring now to **FIG. 4**, operations for on-demand server system **22** will now be further described. At block **230**, server system **22** determines whether a new software application has been received for installation on server system **22**. If so, configuration operations including setting up the users and software to be managed are executed (block **232**). At block **234**, server system **22** determines if a received request is the start of a new user session. Preferably, operations at block **234** are based on receipt at server system **22** of a communication from a client **202** which includes the user credentials from a login exchange performed locally at the client station.

In one embodiment of the present invention, the operations at block **234** are preceded by a user opening a browser at the client station and entering a designated URL associated with establishing a user desktop interface. The appropriate URL may be saved by the browser application using various techniques known to those

of skill in the art. An application launcher associated with the user desktop interface is then downloaded to the client station and executed by the browser. The user desktop interface application launcher then obtains the user identification and password, either from a memory location or by prompting the user. Only a portion of the user desktop interface application launcher code need be initially downloaded sufficient to obtain the user information with additional associated code downloaded subsequently during establishment of the user desktop interface at the client.

If a user identification and password information is contained in the request at block **234**, user login operations are executed including bringing up a user desktop and establishing the user's credentials and application access authorization, based, for example, on stored ID and password information (block **236**). Additional session information may be determined from the login operations such as configuration information related to the hardware and operating system in use for the session. Finally, if it is determined that the request has been received from an already logged in user at block **238** requesting execution of an application (as opposed to initial setup of a user desktop interface) application access management operations are executed to bring up an instance of the managed application for the user (block **240**).

Referring now to **FIG. 5**, configuration operations from block **232** will now be further described. To implement a new or updated software application, server system **22** accepts definitions of the application that describe the location and description of the application. This information may be provided by an import file containing location information such as path directories and file name definitions. The server system **22** further accepts definitions of users and groups that will access the system and the specific application (block **252**). This information similarly may be provided as an import file or entered by a user with administrator authority. In addition, in the illustrated embodiment of the present invention, server system **22** also accepts license policies describing the licensing characteristics for the new application (block **254**). The server system **22** further accepts control specifications defining which users and groups are authorized to

access the new or updated application (block **256**). License policy and control specifications may be obtained from an administrator at console **200** or obtained as an import file. Finally, server system **22** updates database **208** to maintain the input definitions and specifications for the new or updated application in a format accessible to server system **22** (block **258**).

Log in operations from block **236** of **FIG. 4** will now be further described with reference to the embodiment of the flowchart of **FIG. 6**. The server system **22** receives a request to initiate a user desktop interface from a user console **202** as described above for an embodiment of the operations of block **234** (block **260**). In other words, in the JAVA™-based embodiment described above, an HTTP request may be received by server system **22** requesting that a desktop instance be executed for a user at user console **202**. Note that the desktop application itself may be structured and provided as a pre-defined application which has the same managed characteristics as any other application provided in the network management environment supported by server system **22**.

On receipt of a request to initiate an instance of a desktop application, the server system **22** first confirms that identification and password information is available (*i.e.*, that the user successfully previously logged on and provided the appropriate information previously or included the information in the request). If the appropriate identification is not available, server system **22** obtains an identification and password from the user for use in establishing the authorization credentials of the user (block **262**). Alternatively, in another embodiment, the application launcher code at the client may only communicate a request if a user identification and password have been successfully obtained, thereby not requiring the operations of block **262**. At block **264**, the server system **22** checks the user's credentials to see if the user is authorized to bring up the user desktop interface application, preferably using the same authorization and checking procedures as used by any other managed application as described in United States Patent Application No. _____ (attorney docket number 5577-106).

If the user is not authorized at block **264**, an error message is displayed and processing stops (block **266**). If the user is authorized, server system **22** processes

a license request to determine if a license is available for the desktop application (block **268**). If no license is available at block **268**, an error message is displayed and processing stops (block **266**). If a license is available, the server system **22** displays the desktop framework **226** (**FIG. 3**) suited for the particular user and hardware device being utilized by the user and further determines what other applications the user is authorized to access and puts an icon for the authorized applications on the user's desktop display (block **270**). In addition, error and trace log entries associated with the desktop application may be enabled for logging and receipt by the server system **22** (block **270**).

While, as described above, operations were identified as being performed at server system **22**, it is to be understand that functions may be divided differently between server and client according to the teachings of the present invention. For example, the user desktop interface application launcher at the client may, responsive to the request to initiate a session, be provided the desktop application program code and the appropriate code to obtain preferences and license availability information. The operations as described for **FIG. 6** may then be executed, in part, at the client, and in part at the server where the data base containing preference information and, optionally, license information is preferably maintained. Accordingly, it is to be understood that the preference and license information are preferably obtained by the application launcher which further includes the application program itself for execution at the client. As with the initial split in downloading code, the code for obtaining preference and license information may be separately downloaded before the code for the application program itself.

As used herein, the term "application program" generally refers to the code associated with the underlying program functions, for example, Lotus Notes or a terminal emulator program. However, it is to be understood that the application program will preferably be included as part of the application launcher which will further include the code associated with managing usage of the application program on a network according to the teachings of the present invention. Further it is to be understood that, as used herein, the term "application launcher program"

may refer to the entire program provided by a software vendor or to merely a portion thereof distibuted to a client to perform particular operations. For example, the application launcher program distributed to initially populate the user desktop preferably does not include the code associated with the underlying application program and obtaining preferences which may only be distributed to the client later when execution of the application program is requested. The application launcher program distributed to populate the user desktop may only include a URL and an associated ICON and, possibly, code to allow obtaining of user identification and password information. Memory usage on the client stations may thereby be limited.

It is to be understood that, while the discussion herein is generally provided with reference to a single application program, the present invention is directed to management of a plurality of application programs available on a network including a server and a client. Accordingly, the plurality of application programs is installed and accessible at the server system **22**. A user desktop interface is then established at the client which is associated with the requesting user responsive to a login request from the user. The desktop interface includes a plurality of display regions, such as icons, associated with a set of the plurality of application programs installed at server system **22** for which the user is authorized. The determination of which of the plurality of applications a user is authorized for may be based upon application management information for the plurality of applications maintained at server system **22**.

Desktop display operations may be coordinated between system server **22** and client station **202**. The user desktop interface is preferably configured at the server system **22** responsive to an identifier of the user associated with the login request so as to provide a configured user desktop interface. It is this configured user desktop interface which is directed to a requesting user and presented in a form appropriate for display by the client station **202** from which the user is accessing the server system **22**. Furthermore, as the desktop application itself may be provided as an application launcher applet like any other application using the methods of the present invention, the desktop itself may also be configured to

include user preference characteristics unique to the user where it is desired to have user configurable characteristics for the desktop interface.

Preferably, access control to applications is provided by not including display regions associated with any of a plurality of application programs installed at the server system **22** for which the user is not authorized. In other words, a user logging in to system server **22** will be provided a user desktop for display which only includes icons for those applications for which the user is authorized. This same configuration grouping may be provided regardless of the client station **202** on which the user is accessing the system.

Referring now to **FIG. 7**, application access operations from block **240** of **FIG. 4** will now be further described for a particular embodiment of the present invention. The server system **22** receives a request to initiate execution of an instance of a managed application from a user (block **280**). This may be provided, for example, by a user clicking on an application icon on the user's desktop **226** (**FIG. 3**). The server system **22** then checks to determine if the user identification information is available (*i.e.*, if the user has successfully logged on and provided the appropriate identification information) (block **282**). If not, server system **22** obtains the user's ID and password and establishes the credentials of the user for use in authorization determination (block **283**). It is to be understood that, where the user brought up the desktop application, the system typically will have already requested and obtained the user's credentials.

At block **284**, the server system **22** checks the credentials of the user to determine if the user is authorized to access the requested application. If the user is not authorized for the particular application an error message is displayed and an error code is returned to the application (block **286**). Optionally, the application program may be configured to allow it to proceed with executing an instance of the application but the application will typically not be authorized to use system level services of the system server **22** (such as error logging, retrieval of user preferences or requesting a license) where the database **208** indicates to the server system **22** that the identified user is not authorized to use the application. In other words, client management server **204** may be configured, based upon the properties

provided by a software designer for a particular managed application, to initiate execution of an instance of an application by a non-authorized user while otherwise denying access to the application management capabilities supported by client management server **204**.

Furthermore, it is to be understood that the application launchers for individual application programs are preferrably distributed when the user desktop is initiated (populated) and may only contain code required to obtain user preferences and/or license information and the application program's executable code from the server on-demand (*i.e.*, when execution is requested by a user). This minimizes the memory required at clients **24**, **24'**, **26**, **26'**. Alternatively, the application launcher may contain, at the client, all the executable code comprising the application program itself before execution is requested. As the application program supported by server system **22** may be executable via a variety of users concurrently, server system **22** provides an instance of the selected one of the plurality of application programs to populate the application launcher to client station **202** for execution responsive to a selection of the application program from the user. Alternatively, while it is not a preferred approach, the application program code itself may be included in the application launcher at the time the user desktop interface is populated allowing an instance of the application program to be executed with less communication traffic between the network and the server associated with the request to initiate an instance of the application program.

Preferably, the application launcher program, as described above, is distributed for each authorized application program to the client station **202** at the time of establishment of the user desktop interface without including all of the executable code of each application as part of the application launchers at the time of distribution. The application launcher applet then detects selection by the user of the application program's associated icon from the user desktop interface at client station **202** and requests an instance of the selected one of the plurality of application programs associated with the icon from server system **22**. The application launcher program then populates client station **202** with the instance of the selected application program for execution. Preferably, the appropriate

configurable user preference information for the selected application program is also obtained from the server system **22** for use in executing the instance of the application program at the client station **202**.

The user preference information is provided to client station **202** from server system **22** for use in executing an instance of the application at the client station **202**. The configurable user preference information maintained by server system **22** may include both user preferences configurable by the user and those not configurable by the user which are instead configurable by an administrator. The user preferences may further be updated responsive to changes from the user or administrator. Configurable preference management operations suitable for use with the present invention are disclosed in United States Patent Application No. _____ (attorney docket number 5577-106).

If the requesting user is an authorized user for the requested application, the server system **22** accepts a license request from the application (block **288**). If no licenses are available, the system may be configured to provide an error message display and stop processing (block **286**). The error message may take the form of an unavailability indication provided to client station **202** if the license availability information obtained from a license management server, which may be system server **22** or other another server on the network, indicates no licenses are available for the requesting user. If a license is available, an instance of the requested application is executed and error and trace logging operations are enabled to receive error and trace log entries if they are sent from the application (block **290**). Server system **22**, as described previously, may be configured to operate in a Tivoli™ environment and forward error and trace log entries to the Tivoli™ enterprise management system **20**.

As will be understood from the above description, the present invention allows development and deployment of managed applications which are deployed to servers rather than to individual clients. Furthermore, the applications are defined and access is controlled centrally which provides control over various versions of software so that the latest software may always be served on-demand to the end-users. Furthermore, users and user groups may be managed centrally

allowing users to roam from client station to client station while still maintaining the same desktop, application access and preferences. Application preferences themselves may be managed centrally for users and groups of users. Various applications can be created using the appropriate tool kit capabilities to provide for centralized preferences, license use management and tracing and error logging. Furthermore, the applications (including the configuration tool kit elements) may be delivered in a platform independent format and run on JAVA™-enabled browsers. In addition, as the desktop interface **226** is managed like other applications, all available and authorized applications may be provided by sharing a single login with a desktop application. Security may also be provided through application management without requiring a secure domain in the web server.

The end-to-end software distribution aspect of the present invention will now be described further with reference to **FIGS. 8-10**. As will be described, the present invention provides for distribution of a new application program to a number of users in an organization using an automated process for distributing programs, preferably as JAVA™ applets, to a set of workstations such as the on-demand servers **22, 22'** discussed previously. More particularly, the invention will be described with respect to its application and implementation using a specific network management approach provided by Tivoli Systems Inc. referred to as the Tivoli Management Environment™. However, it is to be understood that the benefits of the software distribution aspects of the present invention may be provided with any network management application having the ability to pass file packets including the ability to commence initiation of operations on a remote workstation by information included in the distributed file packet.

In the case of the Tivoli™ environment, the TME 10™ package provides server and client software for distributing a software package from a server to a list of Tivoli™ clients. TME 10™ further provides the ability to run pre- and post-processing commands during the software distribution process. Furthermore, the servers receiving distribution of the application from the Tivoli™ server are provided with an on-demand server application, such as that previously described with respect to the user preference aspects of the present invention, which

application includes the ability to import the necessary definitional information and create the appropriate files to install and register a transferred file packet containing an application program on the local server in a manner which makes it recognized and available to users at clients served by the server. For example, the PMImport applet of the eNetwork On-demand server (version 1.0) from IBM supports such a capability.

As illustrated in the embodiment of **FIG. 8**, operations begin when the application software to be distributed is placed by a system administrator on a disk or storage device accessible by Tivoli™ server **20** (**FIG. 1**). As will be described further with reference to **FIGS 9A-10**, the application program source and destination locations are specified at block **112**. A pre-distribution program is executed at the Tivoli™ server **20** if such a program has been specified (block **114**). The application program software is then distributed by Tivoli™ server **20** to specified on-demand servers **22, 22'** at block **116**. In addition, the destination servers **22, 22'** may be provided user identification and password information controlling access to the application program and any supporting database and may further be notified as to which end users and/or clients **24, 24', 26, 26'** should be given access to the application program.

The software distribution operations at block **116** may be accomplished using the software deployment capabilities, for example, of the TME 10™ package. Any specified after-distribution programs are executed as illustrated at block **118**. Typically, the after-distribution program is a program located on a directory at the target on-demand server **22, 22'** which is executed at the target server. At block **120**, the on-demand server **22, 22'** updates the appropriate file and configuration information to make the new application program available to users. For example, on-demand server **22** may be configured to maintain a profile management list identifying various application programs available for execution by users at client stations **24, 24'** including a designation of which applications are authorized with respect to individual users. Optionally, hardware client device associated designation and preferences could be provided. These user and/or client associated profile management lists may then be updated by on-demand server **22**

to include the new application program (block **120**). Accordingly, when a user subsequently communicates from a client **24** to server **22** (typically through a browser application as described above) an icon will appear in the user's graphic interface which the user may then select to initiate program execution. The new application software package is therefore installed and ready for use on each designated on-demand server **22, 22'**.

Accordingly, with a request from a single Tivoli™ server **20** location, an administrator both sends a new application package to all supported on-demand servers and installs the program and configures (registers) it to be available for use. This may be accomplished without requiring any administrator log-in or operations at the individual on-demand servers **22, 22'** or client stations **24, 24', 26, 26'**.

Operations as described with reference to **FIG. 8**, will now be further described for a particular embodiment with reference to **FIGS. 9A-9C** and **10.** Operations related to creating a file package definition (corresponding to block **112** of **FIG. 8**) will first be described with reference to **FIG. 9A**. At block **130**, the custom file package set up task is initiated. At block **132**, the file package name and source and target directory paths are specified as well as the before and after programs and any import file definitions.

Operations at block **132** may be further understood by reference to the example input screen for entering file package information shown in **FIG. 10**. As shown in **FIG. 10**, the host name specifying the Tivoli™ server **20** having access to the file package (configurable application program) is specified as "cowboys3." The source path is designated as "d:\My_Applets" which designates, for example, a CDROM drive connected to Tivoli™ server **20**. A name is provided for the file package to be distributed which in **FIG. 10** is "Slick_Applets." The target path specified in **FIG. 10** is "c:\." This refers, for example, to the hard disk storage device. It is to be understood that the target path destination refers to a directory path on a receiving device which will be used for software package delivery at each of the selected target on-demand servers **22, 22'** receiving distribution of the custom file package.

In **FIG. 10**, both a program to run before distribution (d:\Check_DiskSpace.sh) and a program to run after distribution (d:\My_Applets\My_Setup.sh) are specified. As discussed previously, the Program to Run before Distribution entry identifies a path located on the host Tivoli™ server **20** and the Program to Run after Distribution entry specifies a path on the receiving on-demand server **22 22'**. Accordingly, the My_Setup.sh program should either be installed on each of the target on-demand servers in the designated directory or be included in the distributed software package.

In the example of **FIG. 10**, an import file name (c:\My_Applets\My_Applet_Import.txt) is further provided to allow for automatic installation and registration of the new application program at each of the target on-demand servers **22, 22'**. As discussed previously, user ID and password information are also available to limit execution of programs on the target on-demand servers **22, 22'** to administrators who have authority to initiate execution of such programs. The last row of **FIG. 10** illustrates a log file path designation (d:\My_Logs\My_Setup.Log) allowing Tivoli™ server **20** to track the results of a software distribution operation including detecting any errors in distribution.

Referring again to **FIG. 9A**, if any problems were encountered in creating the file package definition at block **134**, operations terminate. Otherwise, at block **136**, Tivoli™ server **20** determines if the source directory exists. If not, an error message is issued at block **138**.

At block **140**, Tivoli™ server **20** determines if an import file name has been specified such as the Import.txt file identified in the example of **FIG. 10**. If so, at block **142**, a PMImport command script is added to the package of information to be distributed to the target on-demand servers **22, 22'**. As discussed above, the PMImport command script is a particular technique for supporting execution of installation and registration operations by on-demand servers **22, 22'** supported by the On-Demand Server™ from IBM by importing the definition of the distributed software applets, as defined in an import file, into the profile manager of an on-demand server **22, 22'** and registering the applets for use by authorized users. However, it is to be understood that the benefits of the present invention may be

provided with client/server application environments based on other operating protocols. Finally, at block **144**, the created file package definition is saved by Tivoli™ server **20**.

Referring now to **FIG. 9B**, file distribution operations from blocks **114** and **116** of **FIG. 8** will be further described. At block **150**, the file package distribution task is commenced at Tivoli™ server **20**. If there are no packages to distribute at block **152** and a request to close the task has been received at block **154**, operations terminate. Otherwise, operations loop back to block **152** until a package is available for distribution. When a package is available for distribution, the administrator is prompted at block **156** to determine if any changes are desired in the file package before distribution. If so, any modifications are performed and saved at block **158**. At block **160**, Tivoli™ server **20** again tests to determine if the designated source directory from the file package definition exists and, if not, issues an error message at block **162** and terminates file package distribution operations.

At block **164**, Tivoli™ server **20** determines if any before distribution program has been designated and, if so, processes the before distribution program at block **166**. A before distribution program may be provided and executed at block **166** for a variety of reasons. For example, Tivoli™ server **20** may check for space availability on the storage devices on the target on-demand servers **22, 22'** to insure that sufficient space is available to accept distribution of the file packet before transmission. Tivoli™ server **20** could further check to insure that the required environment for distribution exists on the target on-demand servers **22, 22'**. For example, different versions of the application launcher applet and configuration manager applet for a given application program may be provided for different types of hardware or operating systems to insure that the preferences included are suitable for the target environment. The file package is then built and distributed to the specified target servers **22, 22'** at block **168**.

Referring now to **FIG. 9C**, operations at the recipient on-demand server **22, 22'** from blocks **118** and **120** of **FIG. 5** will be further described. At block **170**, the recipient on-demand server **22** determines if any after distribution program has

been designated by the file package. If so, the after distribution program is processed at block **172**. Various installation, authorization, customization or clean up operations may be provided depending upon the client/server and network management software which is installed and operational at the on-demand server **22**. At block **174**, on-demand server **22** determines if an import file name has been designated and, if so, executes the necessary code to register the application program at block **176**. For the illustrated example, this is accomplished by a call to PMImport to update the profile manager list of on-demand server **22**. Appropriate information associated with the application program being distributed to support the profile management function of on-demand server **22** associated with the application program being distributed should be included in the transmitted import file for automatic operations to occur properly. For example, with the IBM On-Demand Server™, the import file should include the name to be displayed in the on-demand server configuration tree and the URL of the applet. Additional optional information may be included in the import file such as a URL identifying icons for display, common fields, access control information and class information where appropriate.

As can be seen from the example of **FIG. 10**, the designated Import.txt file is on a path previously designated for the transfer of the file package (the c:\My_Applets directory). Therefore, it is to be understood that the file package downloaded from Tivoli™ server **20** should not only include the application launcher applet and the configuration management applet but the My_Applet Import.txt file as well. Otherwise, the PMImport call may not be able to find the designated file in the appropriate directory.

At block **178**, on-demand server **22** determines if any registration error was encountered and, if so, issues an error message at block **180** and terminates operations. If refreshing of the application launcher is not required for the particular file package distribution at block **182**, operations for registration terminate successfully. Otherwise, at block **184** the application launcher applet is refreshed and displayed at block **184** before termination of package registration operations.

Refreshing and displaying operations may include importing the software applets and registering them to be immediately available to users. The applet launcher may be refreshed, for example by pressing the Refresh button or automatically without user input, to display the newly registered application icons. Old icons may be deleted and new icons may be added to provide a user desktop display corresponding to the application access control information for the user stored at the on-demand server **22, 22'**. Accordingly, all the users that are logged onto on-demand servers **22, 22'** may see the new application on their desktops and start using them. The display refresh for a new application is preferably limited to user's having access to the new application.

As will be appreciated by those of skill in this art, the above-described aspects of the present invention in the figures may be provided by hardware, software, or a combination of the above. Various components of the application management system of the present invention may, in practice, be implemented by a microcontroller including input and output ports and running software code, by custom or hybrid integrated circuits, by discrete components or by a combination of the above. Similarly, various of the operations may be implemented as software programs, such as JAVA™ applets, executing on a workstation, such as servers **22, 22'** or clients **24, 24', 26, 26''**. More generally, as described above, operations according to the present invention may be realized in the hardware of existing on-demand servers **22, 22'** which, when so configured, provide an application management system for a network according to the present invention.

In the drawings and specification, there have been disclosed typical preferred embodiments of the invention and, although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being set forth in the following claims.

THAT WHICH IS CLAIMED:

1. A method for management of application programs on a network including a server and a client comprising the steps of:

installing a plurality of application programs at the server;

receiving at the server a login request from a user at the client;

establishing a user desktop interface at the client associated with the user responsive to the login request from the user, the desktop interface including a plurality of display regions associated with a set of the plurality of application programs installed at the server for which the user is authorized;

receiving at the server a selection of one of the plurality of application programs from the user desktop interface; and

providing an instance of the selected one of the plurality of application programs to the client for execution responsive to the selection.

2. A method according to Claim 1 further comprising the steps of:

maintaining application management information for the plurality of applications at the server; and

wherein the establishing step includes the step of including a plurality of display regions associated with a set of the plurality of application programs for which the user is authorized responsive to the application management information.

3. A method according to Claim 2 wherein the establishing a user desktop step includes the step of:

distributing application launcher programs associated with each of the set of the plurality of application programs for which the user is authorized to the client; and

wherein the receiving a selection step includes the step of receiving the selection from a one of the application launcher programs which is associated with the selected one of the plurality of application programs.

4. A method according to Claim 3 wherein the maintaining step includes the step of maintaining configurable user preference information for the plurality of application programs at the server and wherein the providing an instance step includes the step of providing a set of the configurable user preference information associated with the user and the selected one of the plurality of application programs to the client.

5. A method according to Claim 4 wherein the set of the configurable user preference information includes user preferences configurable by the user and user preferences not configurable by the user which are configurable by an administrator and further comprising the step of updating the user preferences configurable by the user responsive to updates from the user and updating the user preferences not configurable by the user responsive to updates from the administrator.

6. A method according to Claim 3 wherein the application launcher programs are JAVA™ applets and the user desktop interface is a JAVA™ applet executed by a web browser.

7. A method according to Claim 1 wherein the establishing a user desktop step includes the steps of:

configuring the user desktop interface responsive to an identifier of the user associated with the login request so as to provide associated information for the user desktop interface; and

providing the user desktop interface and the associated information for the user desktop interface to the client for display.

8. A method according to Claim 7 wherein the configuring the user desktop step includes the step of configuring the user desktop interface not to include display regions associated with any of the plurality of application programs installed at the server for which the user is not authorized.

9. A method according to Claim 1 wherein the receiving a selection step is followed by the step of determining a license availability for the selected one of the plurality of application programs for the user and wherein the providing step includes the step of providing an unavailability indication to the client responsive to the selection if the license availability indicates that a license is not available for the user.

10. A method according to Claim 9 wherein the establishing a user desktop step includes the step of distributing application launcher programs associated with each of the set of the plurality of application programs for which the user is authorized to the client and wherein the receiving a selection step includes the step of receiving the selection from a one of the application launcher programs which is associated with the selected one of the plurality of application programs and wherein the step of determining a license availability includes the step carried out by the one of the application launcher programs associated with the selected one of the plurality of application programs of obtaining the license availability from a license management server.

11. A method according to Claim 10 wherein the license management server is the server.

12. A method according to Claim 1 wherein the plurality of application programs are installed on a network drive accessible to the server.

13. A method according to Claim 1 further comprising the step of receiving at the server event logging information from the instance of the selected one of the plurality of application programs.

14. A method according to Claim 13 further comprising the step of providing the received event logging information to a network management server associated with the server.

15. A method for distribution of application programs to a target station on a network comprising the steps executed on a centralized network management server coupled to the network of:

providing an application program to be distributed to the network management server;

specifying a source directory and a target directory for distribution of the application program;

preparing a file packet associated with the application program and including a segment configured to initiate registration operations for the application program at the target station; and

distributing the file packet to the target station.

16. A method according to Claim 15 wherein the network management server is a Tivoli™ server.

17. A method according to Claim 16 wherein the segment configured to initiate registration operations includes an import data file and a call to an import program executing on the target station.

18. A method according to Claim 16 where the application program is provided as a JAVA™ applet and wherein the application program is registered based on a Universal Resource Locator (URL) address accessible to a browser application and wherein the segment configured to initiate registration operations includes a variable field into which the target station inserts its identification during registration operations.

19. A method according to Claim 18 wherein the step of distributing comprises the step of distributing the file packet to a plurality of target stations each having an identification which may be inserted into the variable field at the target station.

20. An application program distribution system for distributing application programs to a target station on a network executing on a centralized network management server coupled to the network, the system comprising:

means for providing to the network management server an application program to be distributed to remote servers;

means for specifying a source directory and a target directory for distribution of the application program;

means for preparing a file packet associated with the application program, the file packet including a segment configured to initiate registration operations for the application program at the target station; and

means for distributing the file packet to the target station.

21. An application program management system for managing application programs on a network including a server and a client comprising:

means for installing a plurality of application programs at the server;

means for receiving at the server a login request from a user at the client;

means for establishing a user desktop interface at the client associated with the user responsive to the login request from the user, the desktop interface including a plurality of display regions associated with a set of the plurality of application programs installed at the server for which the user is authorized;

means for receiving at the server a selection of one of the plurality of application programs from the user desktop interface; and

means for providing an instance of the selected one of the plurality of application programs to the client for execution responsive to the selection.

22. A computer program product for distributing application programs to a target station on a network executing on a centralized network management server coupled to the network, the computer program product comprising:

a computer-readable storage medium having computer-readable program code means embodied in said medium, said computer-readable program code means comprising:

computer readable program code means for providing to the network management server an application program to be distributed to remote servers;

computer readable program code means for specifying a source directory and a target directory for distribution of the application program;

computer readable program code means for preparing a file packet associated with the application program, the file packet including a segment configured to initiate registration operations for the application program at the target station; and

computer readable program code means for distributing the file packet to the target station.

23. A computer program product for managing application programs on a network including a server and a client, the computer program product comprising:

a computer-readable storage medium having computer-readable program code means embodied in said medium, said computer-readable program code means comprising:

computer readable program code means for installing a plurality of application programs at the server;

computer readable program code means for receiving at the server a login request from a user at the client;

computer readable program code means for establishing a user desktop interface at the client associated with the user responsive to the login request from the user, the desktop interface including a plurality of display regions associated

with a set of the plurality of application programs installed at the server for which the user is authorized;

computer readable program code means for receiving at the server a selection of one of the plurality of application programs from the user desktop interface; and

computer readable program code means for providing an instance of the selected one of the plurality of application programs to the client for execution responsive to the selection.

METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR CENTRALIZED MANAGEMENT OF APPLICATION PROGRAMS ON A NETWORK

Abstract of the Disclosure

Methods, systems and computer program products for management of application programs on a network including a server supporting client stations are provided. The server provides applications on-demand to a user logging in to a client supported by the server. Mobility is provided to the user and hardware portability is provided by establishing a user desktop interface responsive to a login request which presents to the user a desktop screen through a web browser interface which accesses and downloads selected application programs from the server responsive to a request from the user on the user desktop screen at the client. The application program is then provided from the server and executed at the client. The application program may further be customized to conform to the user's preferences and may also provide for license use management by determining license availability before initiating execution of the application program. Finally, software distribution and installation may be provided from a single network management server.

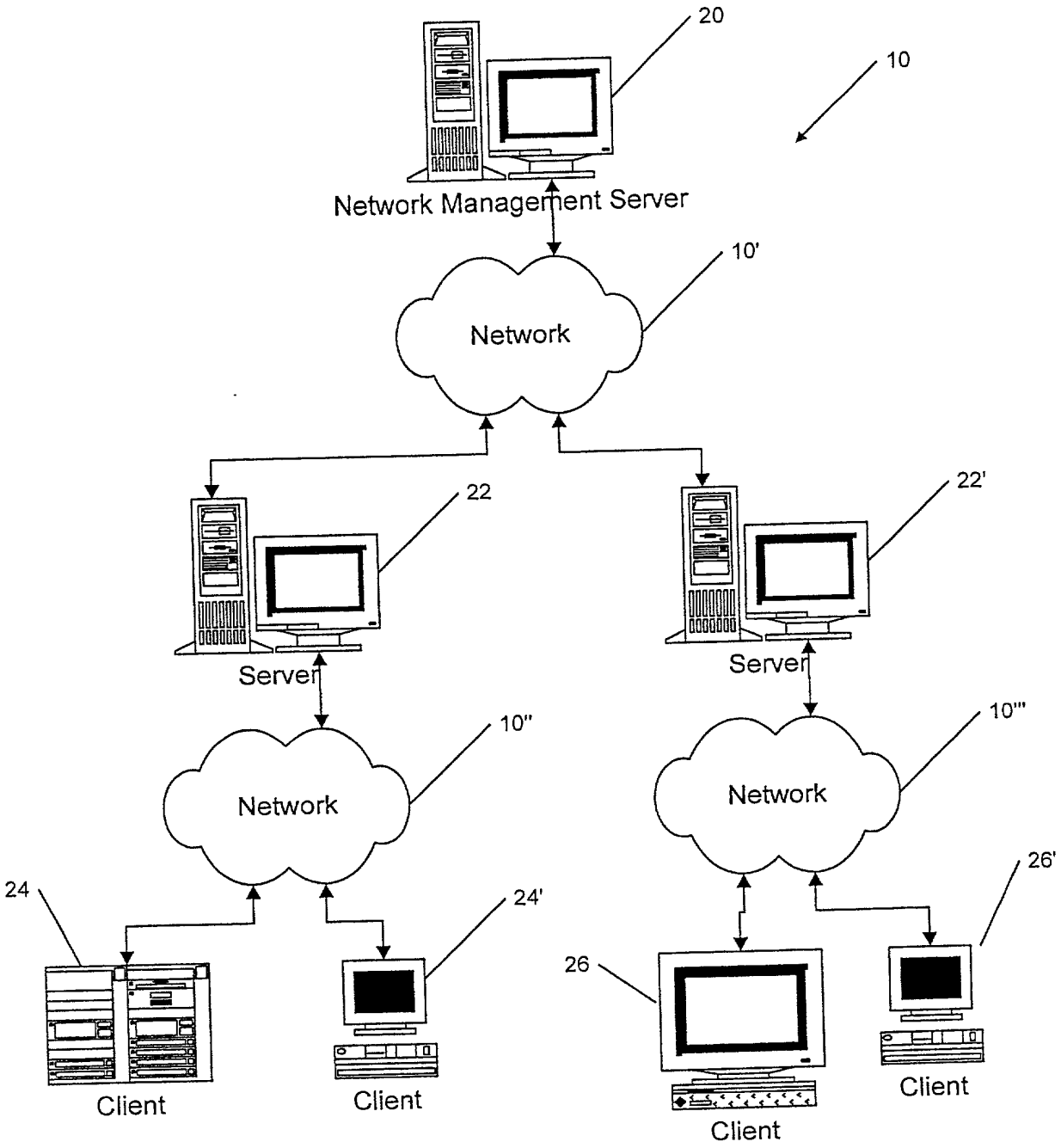
20
10
Network Management Server
10'
Network
22
22'
Server
Server
10''
10'''
Network
Network
24
24'
26'
26
Client
Client
Client
Client

FIG. 1

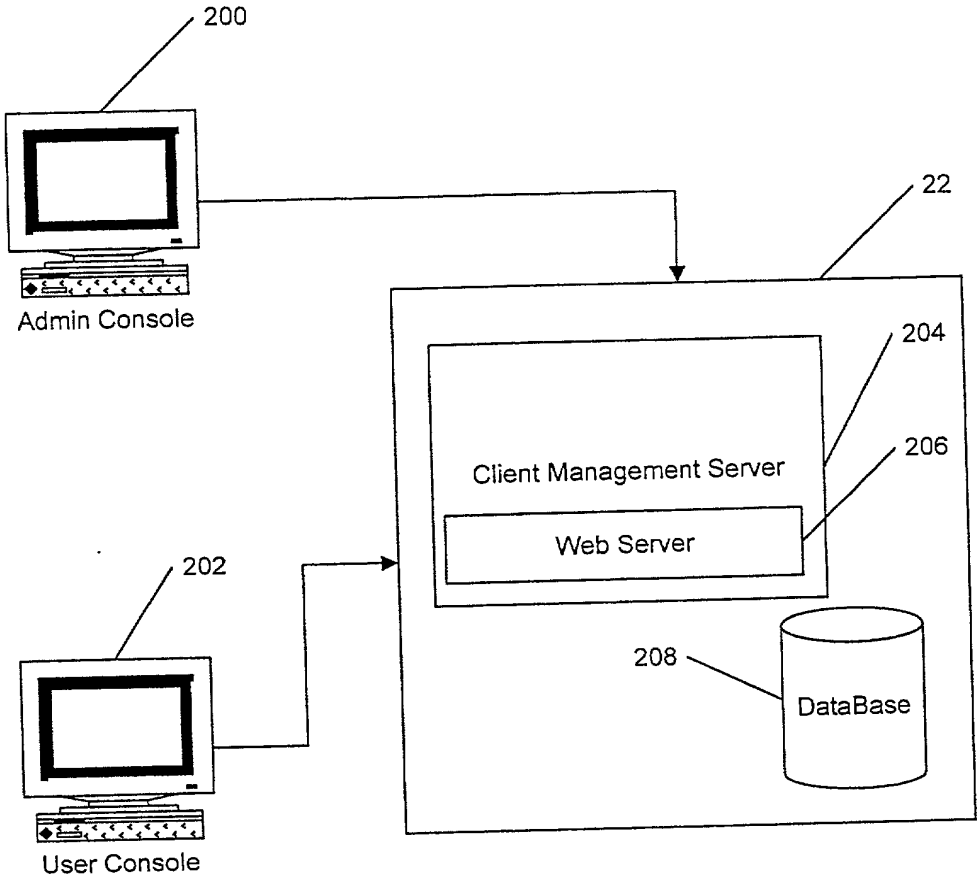
200
Admin Console
22
204
Client Management Server
206
Web Server
202
208
DataBase
User Console

FIG. 2

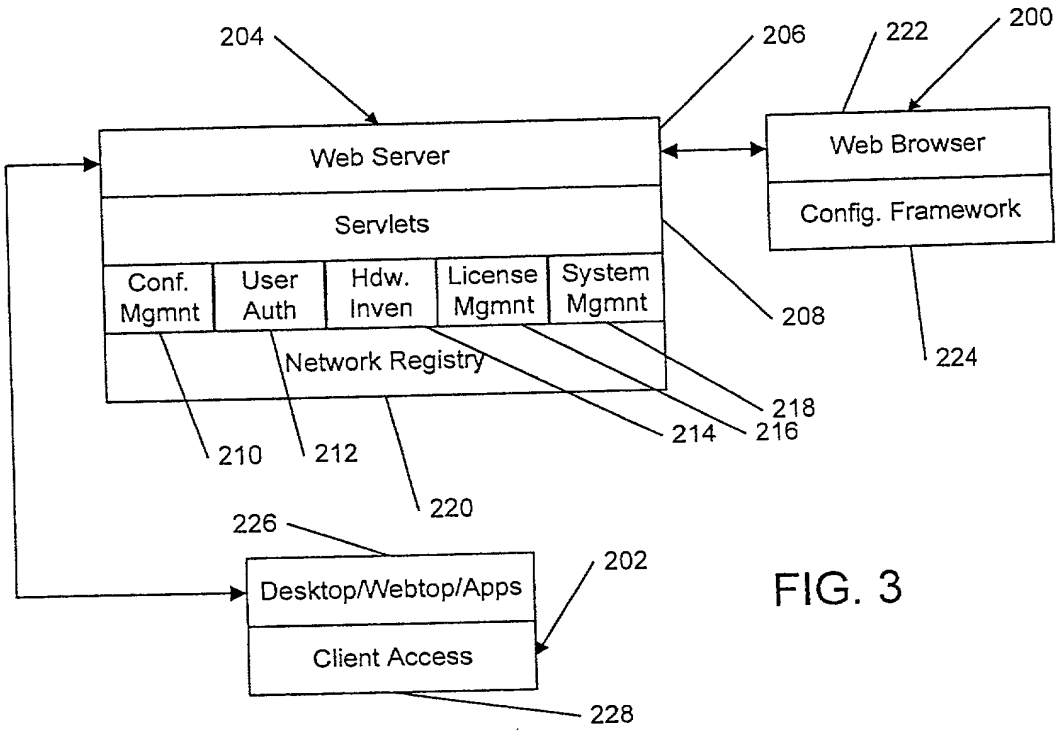
204
206
222
200
Web Server
Web Browser
Servlets
Config. Framework
Conf. Mgmnt
User Auth
Hdw. Inven
License Mgmnt
System Mgmnt
208
224
Network Registry
218
214
216
210
212
220
226
Desktop/Webtop/Apps
202
Client Access
228

FIG. 3

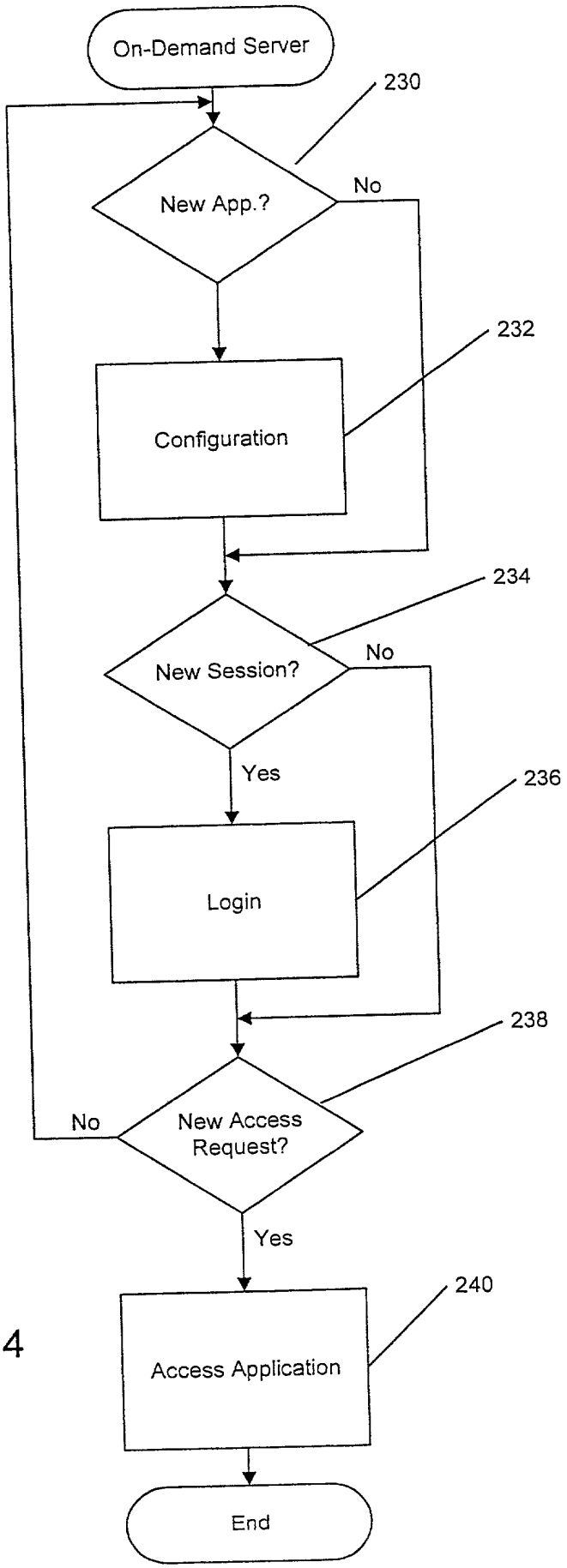

FIG. 4

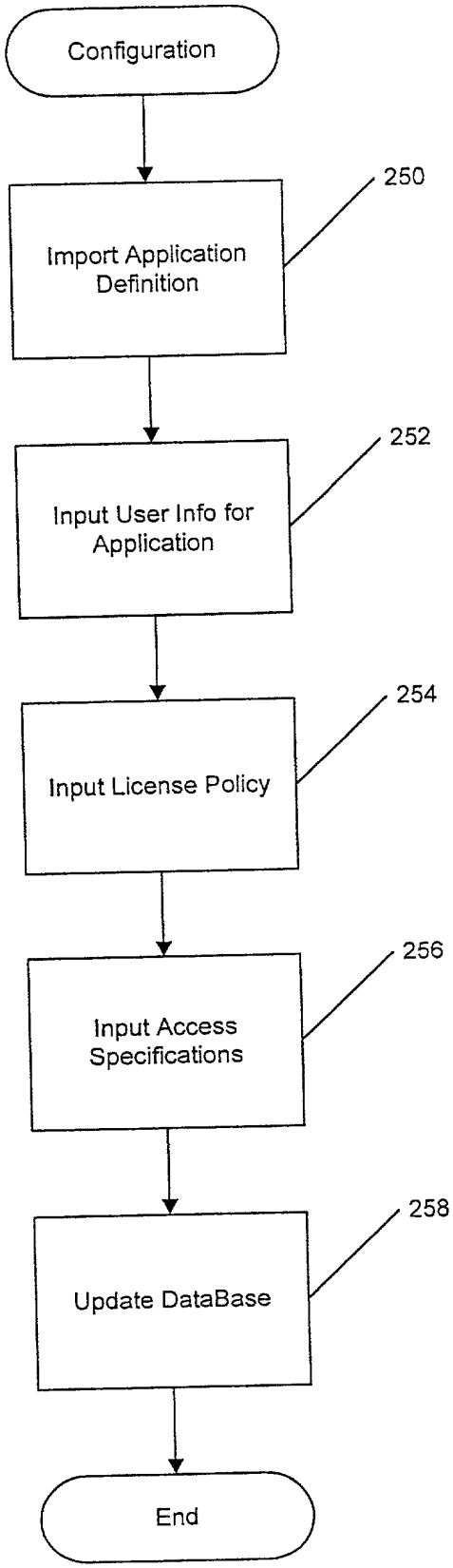
Configuration
Import Application Definition
250
Input User Info for Application
252
Input License Policy
254
Input Access Specifications
256
Update DataBase
258
End

FIG. 5

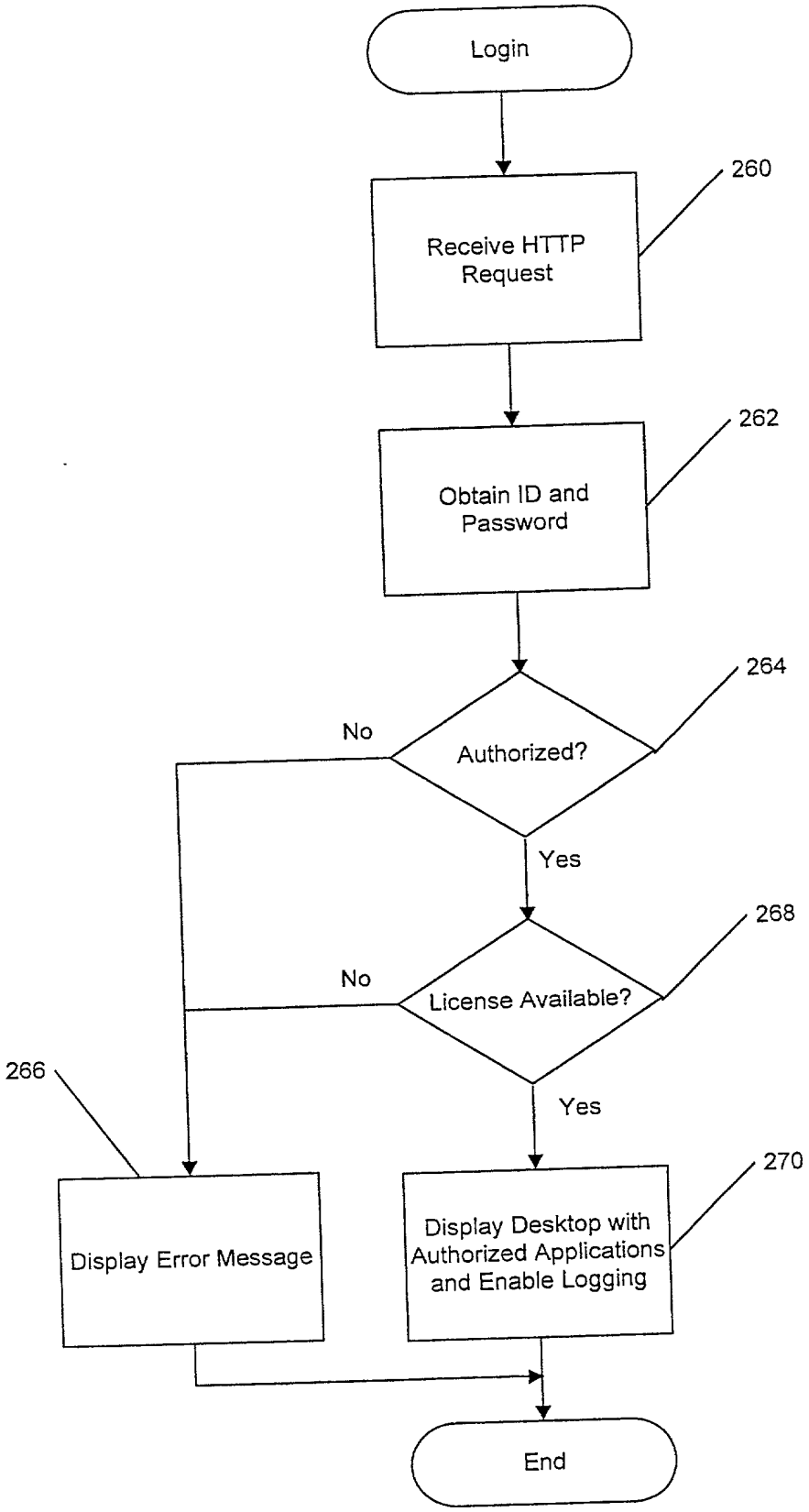
Login
Receive HTTP Request
260
Obtain ID and Password
262
Authorized?
264
No
Yes
License Available?
268
No
Yes
266
Display Error Message
Display Desktop with Authorized Applications and Enable Logging
270
End

FIG. 6

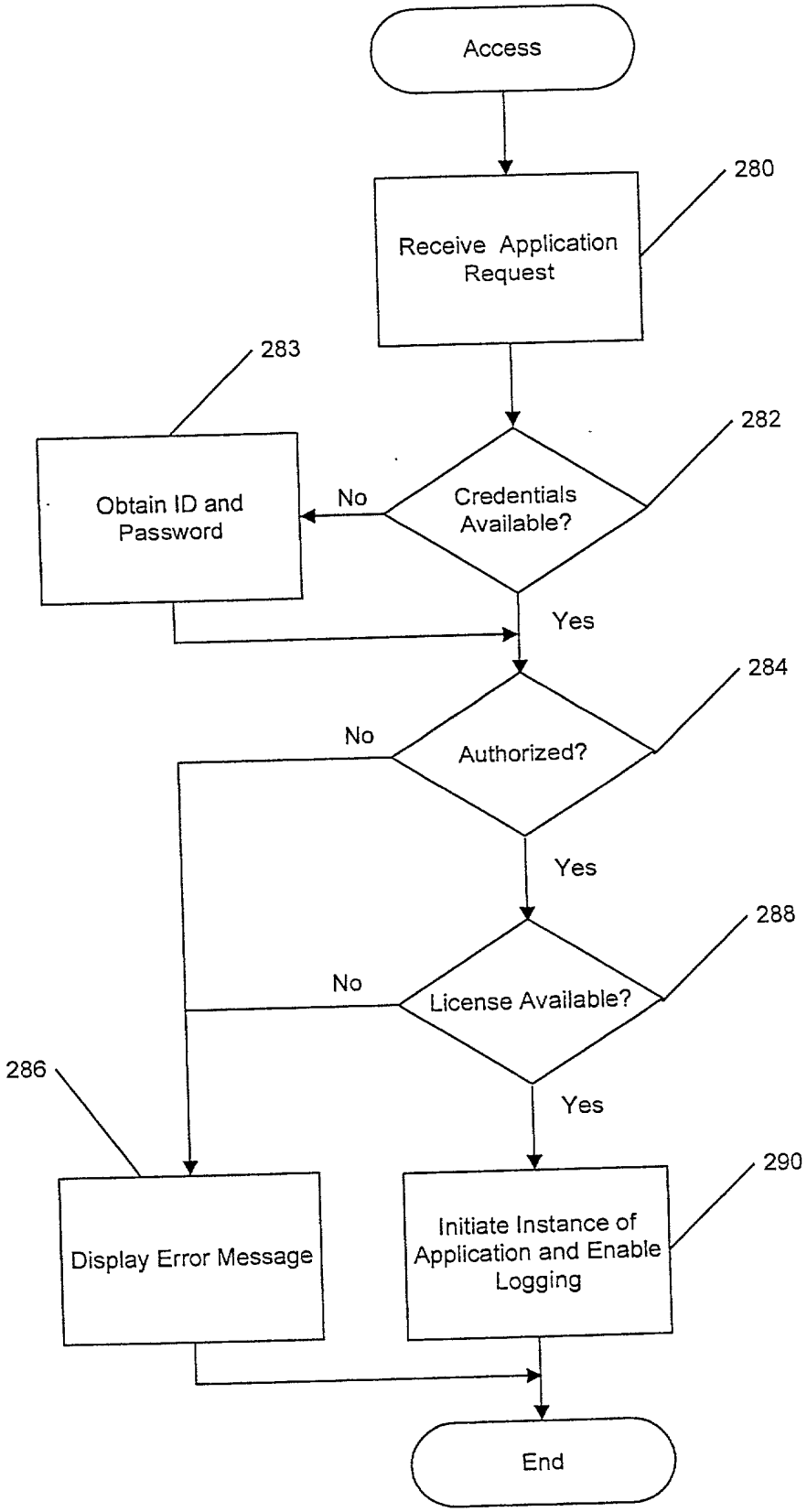
Access
Receive Application Request
280
283
Obtain ID and Password
No
Credentials Available?
282
Yes
284
No
Authorized?
Yes
288
No
License Available?
286
Yes
290
Display Error Message
Initiate Instance of Application and Enable Logging
End

FIG. 7

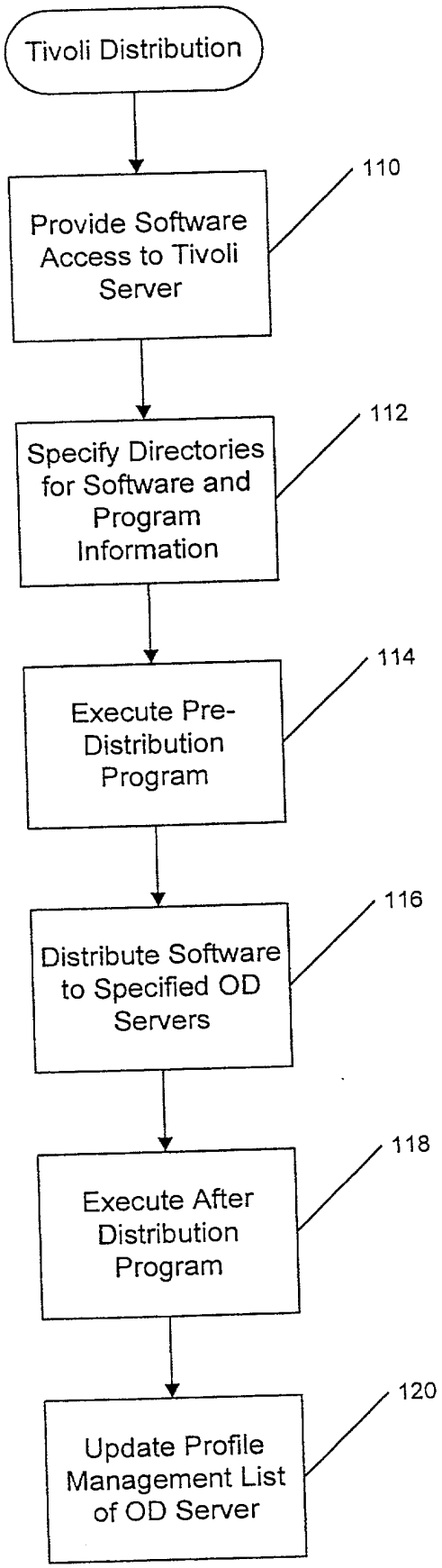

FIG. 8

Create File Package Definition

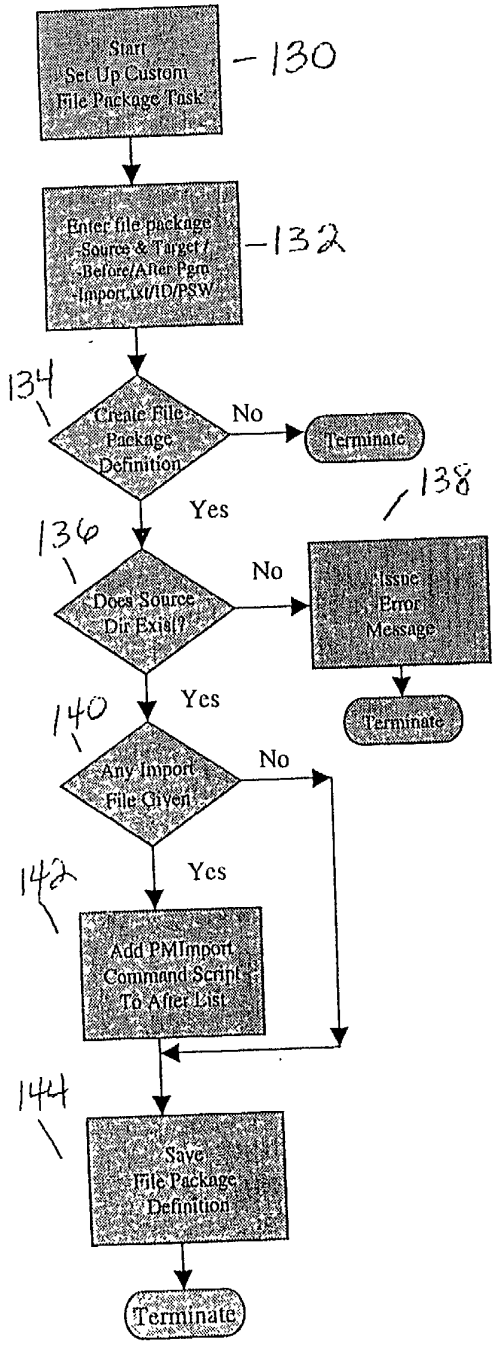

FIG. 9A

Distribute File Package

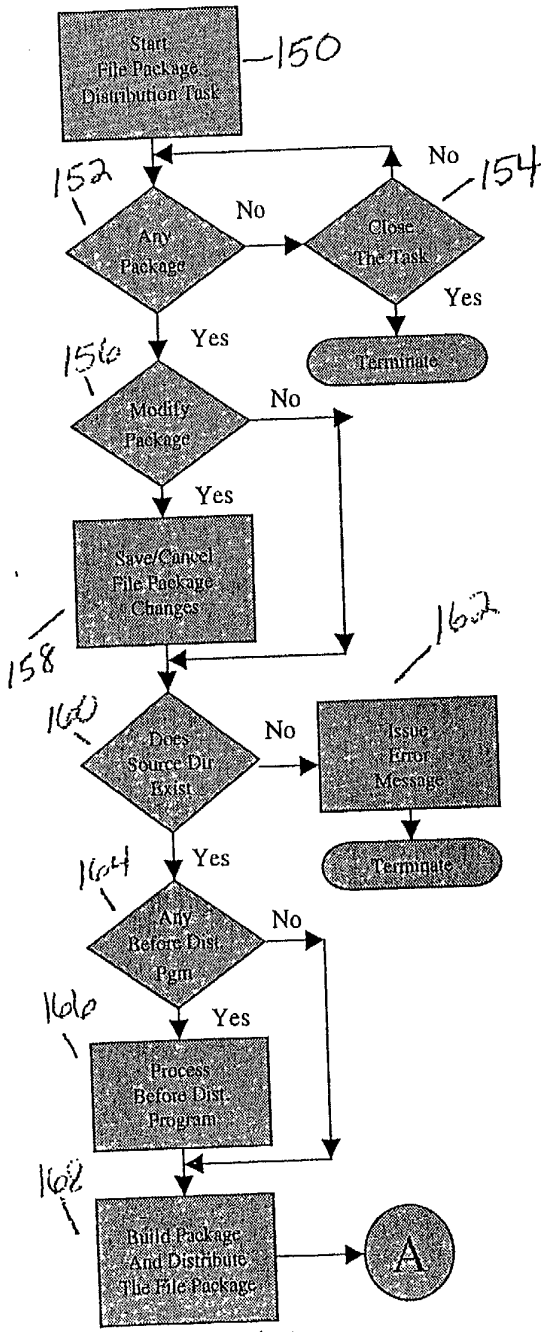

FIG. 9B

Register Package Contents

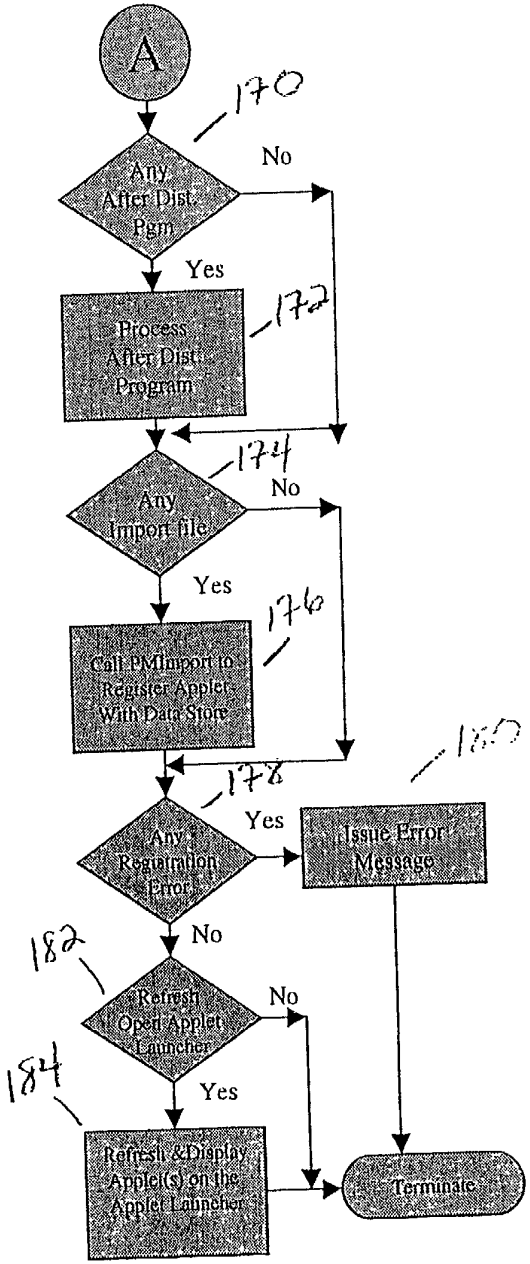

FIG. 9C

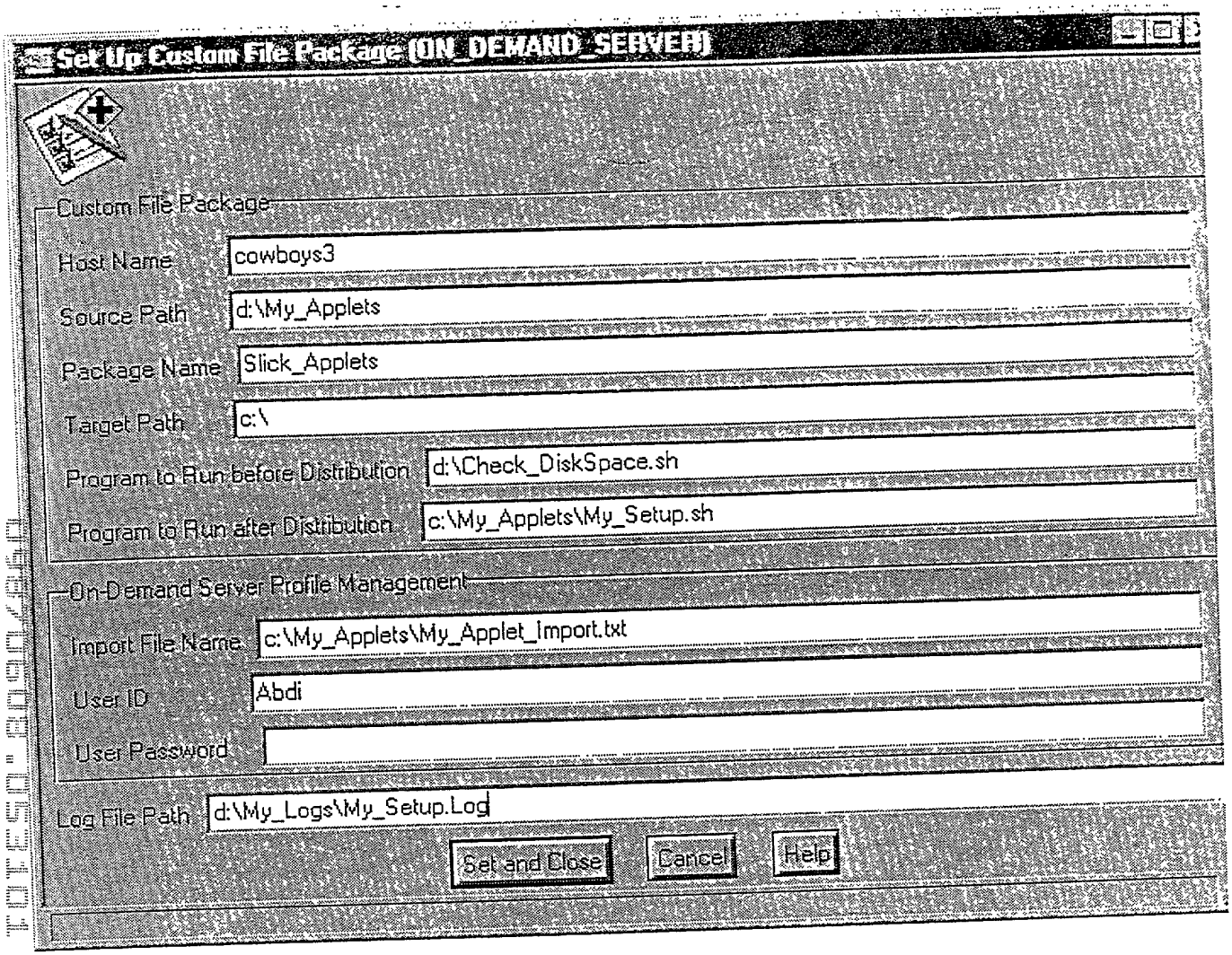
Set Up Custom File Package (ON_DEMAND_SERVER)
Custom File Package
Host Name
cowboys3
Source Path
d:\My_Applets
Package Name
Slick_Applets
Target Path
c:\
Program to Run before Distribution
d:\Check_DiskSpace.sh
Program to Run after Distribution
c:\My_Applets\My_Setup.sh
On-Demand Server Profile Management
Import File Name
c:\My_Applets\My_Applet_Import.txt
User ID
Abdi
User Password
Log File Path
d:\My_Logs\My_Setup.Log
Set and Close
Cancel
Help

FIG. 10

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

Attorney Docket No. 5577-130

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR CENTRALIZED MANAGEMENT OF APPLICATION PROGRAMS ON A NETWORK

the specification of which

[ ] is attached hereto

OR

[X] was filed on December 14, 1998 as United States Application No. 09/211,528 or PCT International Application Number _____ and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37 Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below any foreign application for patent or inventor's certificate, or of any PCT International application having a filing date before that of the application on which priority is claimed.

None			[ ] Yes [ ] No
Number	Country	MM/DD/YYYY Filed	Priority Claimed
			[ ] Yes [ ] No
Number	Country	MM/DD/YYYY Filed	Priority Claimed
			[ ] Yes [ ] No
Number	Country	MM/DD/YYYY Filed	Priority Claimed

ENGLISH LANGUAGE DECLARATION CONTINUED

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

None	
Application Number(s)	Filing Date (MM/DD/YYYY)
Application Number(s)	Filing Date (MM/DD/YYYY)

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or § 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application (37 C.F.R. § 1.63(d)).

None		
Appln. Serial No.	Filing Date	Status Patented/Pending/Abandoned
Appln. Serial No.	Filing Date	Status Patented/Pending/Abandoned
Appln. Serial No.	Filing Date	Status Patented/Pending/Abandoned

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

ENGLISH LANGUAGE DECLARATION CONTINUED

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following registered attorney(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

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