UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.	: 8,924,543 B2
APPLICATION NO.	: 13/248025
DATED	: December 30, 2014
INVENTOR(S)	: Raleigh et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Page 4, Column 2, at the end of item (60) add the following applications:
provisional application No. 61/264,120, filed November 24, 2009, provisional application No. 61/252,153, filed October 15, 2009.

Signed and Sealed this
Nineteenth Day of February, 2019

Andrei Iancu
Director of the United States Patent and Trademark Office

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Raleigh et al.	Patent No.: 8,924,543
Serial No.: 13/248,025	Issue Date: December 30, 2014
Filing Date: September 28, 2011	Conf. No.: 7281
Title: Service Design Center for Device Assisted Services	

Commissioner for Patents
Office of Patent Publication
ATTN: Certificate of Correction Branch
P.O. Box 1450
Alexandria, VA 22313-1450

MISCELLANEOUS COMMUNICATION REGARDING CERTIFICATE OF CORRECTION

Applicant/Patentee (hereinafter, "Applicant") respectfully requests that the Office issue a Certificate of Correction for U.S. Patent No. 8,924,543 to correct an error in the "Related U.S. Application Data (60)" section of the patent. The error being corrected is the Office's error.

In the published patent, section (60) is missing the following provisional applications that were listed in the September 25, 2013 Supplemental Application Data Sheet (pages 9 and 10):

> provisional application No. 61/264,120, filed November 24, 2009, provisional application No. 61/252,153, filed October 15, 2009.

Applicant requests that these applications be added to the end of section (60), page 4, column 2.

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000002

CONCLUSION

Applicant respectfully requests issuance of the Certificate of Correction to correct the error in the priority claim. The Office is authorized to charge any fee deficiency or credit any overpayment to Deposit Account 50-5876.

Respectfully submitted,

Date: January 11, 2019 By: /James E. Harris/

James E. Harris
Reg. No. 40,013
Patent Counsel
Headwater Research LLC
1011 Pruitt Place
Tyler, TX 75703
(903) 201-6212

CERTIFICATE OF ELECTRONIC TRANSMISSION

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being filed electronically via EFS-Web addressed to the Commissioner for Patents on:

Date: January 11, 2019 By: /Jennifer Smith/
Jennifer Smith

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000003

PTO/SB/44 (09-07)
Approved for use through 08/31/2013. OMB 0651-0033
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(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 8,924,543

APPLICATION NO.: 13/248,025

ISSUE DATE : December 30, 2014

INVENTOR(S) : Raleigh et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Page 4, column 2, at the end of section (60) add the following applications:

provisional application No. 61/264,120, filed November 24, 2009, provisional application No. 61/252,153, filed October 15, 2009.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Headwater Research LLC
1011 Pruitt Place
Tyler, TX 75703

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. 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 1.0 hour 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.	: 8,924,543 B2
APPLICATION NO.	: 13/248025
DATED	: December 30, 2014
INVENTOR(S)	: Raleigh et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the claims

In column 60, line 59, (the fourth line of claim 12) the word --a-- should be inserted after "consisting of:"

Signed and Sealed this
Fourteenth Day of June, 2016

Michelle K. Lee

Michelle K. Lee
Director of the United States Patent and Trademark Office

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Raleigh	Patent No.: 8,924,543
Serial No.: 13/248,025	Issue Date: December 30, 2014
Filing Date: September 28, 2011	Conf. No.: 7281
Title: Service Design Center for Device Assisted Services	

Commissioner for Patents
Office of Data Management
ATTN: Certificate of Correction Branch
P.O. Box 1450
Alexandria, VA 22313-1450

MISCELLANEOUS COMMUNICATION REGARDING CERTIFICATE OF CORRECTION

Applicant/Patentee (hereinafter, "Applicant") respectfully requests that the Office issue a Certificate of Correction for U.S. Patent No. 8,924,543 to correct a typographical error in claim 12. The error being corrected is the Office's error.

In Applicant's amendment filed on February 19, 2013, claim 12 recites:

> 12. The network service plan provisioning system of claim 1, wherein the information specifying the first traffic classification filter comprises an inspection criterion selected from a group of inspection criteria consisting of: **a** specific device application, a specific network destination, a specific network source, a specific traffic type, a specific content type, a specific traffic protocol, and a combination of two or more of the inspection criteria.

But in the issued patent, claim 12 recites:

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Petitioners' Exhibit 1002
Page 000007

12. The network service plan provisioning system of claim 1, wherein the information specifying the first traffic classification filter comprises an inspection criterion selected from a group of inspection criteria consisting of**:** specific device application, a specific network destination, a specific network source, a specific traffic type, a specific content type, a specific traffic protocol, and a combination of two or more of the inspection criteria.

The word "a" should be inserted after "criteria consisting of: ."

CONCLUSION

Applicant respectfully requests issuance of the Certificate of Correction to correct the typographical error in claim 12. The Office is authorized to charge any fee deficiency or credit any overpayment to Deposit Account 50-5876.

Respectfully submitted,

Date: April 21, 2016

By: /James E. Harris/

James E. Harris
Reg. No. 40,013
Patent Counsel
Headwater Partners I LLC
1011 Pruitt Place
Tyler, TX 75703
(512) 970-9135

CERTIFICATE OF ELECTRONIC TRANSMISSION

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being filed electronically via EFS-Web addressed to the Commissioner for Patents on:

Date: April 21, 2016 By: /Ann Taylor/
Ann Taylor

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Petitioners' Exhibit 1002
Page 000008

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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 8,924,543

APPLICATION NO.: 13/248,025

ISSUE DATE : December 30, 2014

INVENTOR(S) : Raleigh et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In column 60, line 59, (the fourth line of claim 12) the word "a" should be inserted after "consisting of: "

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Headwater Partners I LLC
555 Twin Dolphin Drive, Suite 310
Redwood City, CA 94065

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. 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 1.0 hour 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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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

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/248,025	12/30/2014	8924543	RALEP043 [26WV-160520]	7281

107265 7590 12/10/2014

Headwater Partners I LLC - Outside Firm 1
555 Twin Dolphin Drive, Suite 310
Redwood Shores, CA 94065

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

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

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

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 Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Gregory G. Raleigh, Woodside, CA;
Alireza Raissinia, Monte Sereno, CA;
James Lavine, Corte Madera, CA;
Jeffrey Green, Sunnyvale, CA;
Justin James, Poway, CA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/248,025	09/28/2011	Gregory G. Raleigh	RALEP043 [26WV-160520]	7281

107265 7590 11/25/2014

Headwater Partners I LLC - Outside Firm 1
555 Twin Dolphin Drive, Suite 310
Redwood Shores, CA 94065

EXAMINER	
RUDY, ANDREW J	

ART UNIT	PAPER NUMBER
3687	

NOTIFICATION DATE	DELIVERY MODE
11/25/2014	ELECTRONIC

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

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patent@headwaterllc.com
krista@jacobseniplaw.com

Corrected Notice of Allowability	**Application No.** 13/248,025	**Applicant(s)** RALEIGH ET AL.	
	Examiner ANDREW JOSEPH RUDY	**Art Unit** 3687	**AIA (First Inventor to File) Status** No

-- 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 *the 13 November 2013 QPID submission*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *1-7 and 11-124*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov .
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   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.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ 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. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/ANDREW JOSEPH RUDY/
Primary Examiner
Art Unit: 3687

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000013

Doc code: RCEX
Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	13/248,025	Filing Date	2011-09-28	Docket Number (if applicable)	RALEP043	Art Unit	3687
First Named Inventor	RALEIGH			Examiner Name	Rudy, Andrew J.		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☐ Other _____

☒ Enclosed

☐ Amendment/Reply

☒ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☒ Other 1. Certification & Request for Consideration of an IDS Filed After Payment of the Issue Fee Under the QPIDS Program (2); 2. Petition to Withdraw an Application from Issue After Payment of Issue Fee Under 37 CFR 1.313(c)

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 505876

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000014

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/James E. Harris/	Date (YYYY-MM-DD)	2014-11-13
Name	James E. Harris	Registration Number	40013

This collection of information is required by 37 CFR 1.114. 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 1.11 and 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, VA 22313-1450.

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1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	13248025
Filing Date	2011-09-28
First Named Inventor	Gregory G. Raleigh
Art Unit	3687
Examiner Name	Andrew J RUDY
Attorney Docket Number	RALEP043

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7756056		2010-07-13	Kim et al	
	2	8375136		2013-02-12	Roman et al.	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20070143824		2007-06-21	Shahbazi, Majid	
	2	20070266422		2007-11-15	Germano et al.	
	3	20090044185		2009-02-12	Krivopaltsev, Eugene	
	4	20050075115		2005-04-07	Corneille et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13248025
	Filing Date	2011-09-28
	First Named Inventor	Gregory G. Raleigh
	Art Unit	3687
	Examiner Name	Andrew J RUDY
	Attorney Docket Number	RALEP043

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] ¡	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐

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NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1		☐

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EXAMINER SIGNATURE

Examiner Signature		Date Considered	

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

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	13248025
	Filing Date	2011-09-28
	First Named Inventor	Gregory G. Raleigh
	Art Unit	3687
	Examiner Name	Andrew J RUDY
	Attorney Docket Number	RALEP043

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☒ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☒ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/James E. Harris/	Date (YYYY-MM-DD)	2014-11-13
Name/Print	James E. Harris	Registration Number	40013

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Decision Date : November 13, 2014

In re Application of :

Gregory Raleigh

DECISION ON PETITION

UNDER CFR 1.313(c)(2)

Application No : 13248025

Filed : 28-Sep-2011

Attorney Docket No : RALEP043 [26WV-160520]

This is an electronic decision on the petition under 37 CFR 1.313(c)(2), filed November 13, 2014, to withdraw the above-identified application from issue after payment of the issue fee.

The petition is **GRANTED.**

The above-identified application is withdrawn from issue for consideration of a submission under 37 CFR 1.114 (request for continued examination). See 37 CFR 1.313(c)(2).

Petitioner is advised that the issue fee paid in this application cannot be refunded. If, however, this application is again allowed, petitioner may request that it be applied towards the issue fee required by the new Notice of Allowance.

Telephone inquiries concerning this decision should be directed to the Patent Electronic Business Center (EBC) at 866-217-9197.

This application file is being referred to Technology Center AU 3687 for processing of the request for continuing examination under 37 CFR 1.114 .

Office of Petitions

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

107265 7590 07/18/2014
Headwater Partners I LLC - Outside Firm 1
555 Twin Dolphin Drive, Suite 310
Redwood Shores, CA 94065

EXAMINER
RUDY, ANDREW J

ART UNIT	PAPER NUMBER
3687	

DATE MAILED: 07/18/2014

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/248,025	09/28/2011	Gregory G. Raleigh	RALEP043 [26WV-160520]	7281

TITLE OF INVENTION: SERVICE DESIGN CENTER FOR DEVICE ASSISTED SERVICES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$0	$0	$890	$0	10/20/2014

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 DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). 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. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

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.

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000022

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)

107265 7590 07/18/2014
Headwater Partners I LLC - Outside Firm 1
555 Twin Dolphin Drive, Suite 310
Redwood Shores, CA 94065

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.
13/248,025	09/28/2011	Gregory G. Raleigh	RALEP043 [26WV-160520]	7281

TITLE OF INVENTION: SERVICE DESIGN CENTER FOR DEVICE ASSISTED SERVICES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$0	$0	$890	$0	10/20/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
RUDY, ANDREW J	3687	705-026000

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 submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ❑ Applicant certifying micro entity status. See 37 CFR 1.29 — NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ❑ Applicant asserting small entity status. See 37 CFR 1.27 — NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ❑ Applicant changing to regular undiscounted fee status. — NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000023

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/248,025	09/28/2011	Gregory G. Raleigh	RALEP043 [26WV-160520]	7281

107265 7590 07/18/2014

Headwater Partners I LLC - Outside Firm 1
555 Twin Dolphin Drive, Suite 310
Redwood Shores, CA 94065

EXAMINER	
RUDY, ANDREW J	

ART UNIT	PAPER NUMBER
3687	

DATE MAILED: 07/18/2014

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

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

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. 02/11)

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000024

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B 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.

Privacy Act Statement

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The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 13/248,025	Applicant(s) RALEIGH ET AL.	
	Examiner ANDREW JOSEPH RUDY	Art Unit 3687	AIA (First Inventor to File) Status No

-- 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 *09 October 2013 RCE*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *1-7 and 11-124*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov .
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   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.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ 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. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☒ Examiner's Amendment/Comment
6. ☒ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000026

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on October 9, 2013 has been entered.

3. Applicant cancelled claims 8-10. Claims 1-7 and 11-124 are pending.

4. Further pertinent references are noted on the attached PTO-892.

5. Applicant's Information Disclosure Statements (IDS's) submitted October 9, 2013; November 26, 2013; January 31, 2014; March 19, 2014 and May 22, 2014 have been reviewed. Note the attached IDS's.

Allowable Subject Matter

6. Claims 1-7 and 11-124 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art of record, either alone or in combination, does not disclose, or suggest, Applicant's claim language. It is noted that the claims have been reviewed in light of Alice Corporation Pty. Ltd. v. CLS Bank International, et al., 573 U. S. ___ (2014).

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."

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW JOSEPH RUDY whose telephone number is (571)272-6789. The examiner can normally be reached on Monday thru Friday.

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). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ANDREW JOSEPH RUDY/

Primary Examiner

Art Unit 3687

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

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Filing Date	2011-09-28
First Named Inventor	Gregory G. Raleigh
Art Unit	3687
Examiner Name	Andrew J RUDY
Attorney Docket Number	RALEP043 [26WV-160520]

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7805140	B2	2010-09-28	Friday et al.	
	2	8605691	B2	2013-12-10	Soomro et al.	
	3	8655357	B1	2014-02-18	Gazzard et al.	
	4	8706863		2014-04-22	Fadell, Anthony	

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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20020188732	A1	2002-12-12	Buckman et al.	
	2	20080010379	A	2008-01-10	Zhao, Hang	

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	3	20080034419	A	2008-02-07	Mullick et al.	

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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	1878160	CN	A	2006-12-13	Jiang, Yong		☐
	2	2011149532	WO	A1	2011-12-01	Raleigh et al.		☐

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NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1		☐

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

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

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Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Krista S. Jacobsen/	Date (YYYY-MM-DD)	2014-07-15
Name/Print	Krista S. Jacobsen	Registration Number	59374

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

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The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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Page 000033

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Examiner Name	Andrew J RUDY
Attorney Docket Number	RALEP043 [26WV-160520]

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6104700		2000-08-15	Haddock, Stephen R. et al.	
	2	6542992		2003-04-01	Peirce, Kenneth L. et al.	
	3	6654814		2003-11-25	Britton, Kathryn H. et al.	
	4	6934249		2005-08-23	Bertin, Olivier et al.	
	5	6957067		2005-10-18	Iyer, Pradeep J. et al.	
	6	7310424		2007-12-18	Gehring, Stephan Walter et al.	
	7	7356011		2008-04-08	Waters, Christopher J.F. et al.	
	8	7478420		2009-01-13	Wright, Michael et al.	

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	Attorney Docket Number	RALEP043 [26WV-160520]

	9	7496652		2009-02-24	Pezzutti, David	
	10	7499438		2009-03-03	Hinman, Brian L. et al.	
	11	7502672		2009-03-10	Kolls, H. Brock	
	12	7535880		2009-05-19	Hinman, Brian L. et al.	
	13	7546460		2009-06-09	Maes, Stephane H.	
	14	7756757		2010-07-13	Oakes III, Charles Lee	
	15	7774456		2010-08-10	Lownsbrough, Derek Leigh et al.	
	16	7921463		2011-04-05	Sood, Kapil et al.	
	17	7929959		2011-04-19	DeAtley, Dallas et al.	
	18	7930446		2011-04-19	Kesselman, Alex et al.	
	19	7940751		2011-05-10	Hansen, Christopher J.	

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	20	8068829		2011-11-29	Lemond, Eric et al.	
	21	8078163		2011-12-13	Lemond, Eric et al.	
	22	8086497		2011-12-27	Oakes III, Charles Lee	
	23	8090359		2012-01-03	Proctor Jr., James Arthur et al.	
	24	8090616		2012-01-03	Proctor Jr., James Arthur et al.	
	25	8116749		2012-02-14	Proctor Jr., James Arthur et al.	
	26	8122249		2012-02-21	Falk, Rainer et al.	
	27	8134954		2013-03-13	Godfrey, James A. et al.	
	28	8150431		2012-04-03	Wolovitz, Lionel et al.	
	29	8166040		2012-04-24	Brindisi, Richard G. et al.	
	30	8185093		2012-05-22	Jheng, Yu-Syuan et al.	

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	31	8185127		2012-05-22	Cai, Zheng et al.	
	32	8195163		2012-06-05	Gisby, Doug et al.	
	33	8296404		2012-10-23	McDysan, Dave et al.	
	34	8325638		2012-12-04	Jin, Haipeng et al.	
	35	8374592		2013-02-12	Proctor, Jr. James A. et al.	
	36	8379847		2013-02-19	Bell, Robert H. et al.	
	37	8437734		2013-05-07	Ray, Amar N. et al.	
	38	8447607		2013-05-21	Weider, Chris et al.	
	39	8472371		2013-06-25	Bari, Farooq et al.	
	40	8483135		2013-07-09	Cai, Yigang et al.	
	41	8495227		2013-07-23	Kaminsky, David L. et al.	

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	42	8495360		2013-07-23	Falk, Rainer et al.	
	43	8504729		2013-08-06	Pezzutti, David A.	
	44	8520589		2013-08-27	Bhatt, Yogesh et al.	
	45	8521110		2013-08-27	Rofougaran, Ahmadreza	

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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20110195700		2011-08-11	Kukuchka, Robert et al.	
	2	20070155365		2007-07-05	Kim, Sung-Jun et al.	
	3	20130144789		2013-06-06	Aaltonen, Janne et al.	
	4	20100131584		2010-05-27	Johnson, William J.	
	5	20100080202		2010-04-01	Hanson, Mark	

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	6	20070147324		2007-06-28	McGary, Faith		

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	1	101115248A	CN		2008-01-30	Lenovo Beijing Ltd.		☐
	2	1538730A	CN		2004-10-20	Zhongxing Communication Co., Ltd.		☐

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	VerizonWireless.com news, "Verizon Wireless Adds to Portfolio of Cosumer-Friendly Tools With Introduction of Usage Controls, Usage Controls and Chaperone 2.0 Offer Parents Full Family Security Solution," August 18, 2008	☐

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☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Krista S. Jacobsen/	Date (YYYY-MM-DD)	2013-10-09
Name/Print	Krista S. Jacobsen	Registration Number	59374

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Decision Date : October 9, 2013

In re Application of :

Gregory Raleigh

DECISION ON PETITION
UNDER CFR 1.313(c)(2)

Application No : 13248025

Filed : 28-Sep-2011

Attorney Docket No : RALEP043 [26WV-160520]

This is an electronic decision on the petition under 37 CFR 1.313(c)(2), filed October 9, 2013 , to withdraw the above-identified application from issue after payment of the issue fee.

The petition is **GRANTED.**

The above-identified application is withdrawn from issue for consideration of a submission under 37 CFR 1.114 (request for continued examination). See 37 CFR 1.313(c)(2).

Petitioner is advised that the issue fee paid in this application cannot be refunded. If, however, this application is again allowed, petitioner may request that it be applied towards the issue fee required by the new Notice of Allowance.

Telephone inquiries concerning this decision should be directed to the Patent Electronic Business Center (EBC) at 866-217-9197.

This application file is being referred to Technology Center AU 3687 for processing of the request for continuing examination under 37 CFR 1.114 .

Office of Petitions

Doc code: RCEX
Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	13248025	Filing Date	2011-09-28	Docket Number (if applicable)	RALEP043 [26WV-160520]	Art Unit	3687
First Named Inventor	Gregory G. Raleigh			Examiner Name	Rudy, Andrew J.		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☐ Amendment/Reply
- ☒ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☒ Other Petition to Withdraw an Application from Issue After Payment of Issue Fee Under 37 CFR 1.313(c)

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 505876

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

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Signature of Registered U.S. Patent Practitioner			
Signature	/Krista S. Jacobsen/	Date (YYYY-MM-DD)	2013-10-09
Name	Krista S. Jacobsen	Registration Number	59374

This collection of information is required by 37 CFR 1.114. 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 1.11 and 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, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Raleigh et al.	Examiner:	RUDY, Andrew J.
Serial No.:	13/248,025	Art Unit:	3687
Filed:	September 28, 2011	Conf. No.:	7281
Title:	Service Design Center for Device Assisted Services		

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

PETITION UNDER 37 C.F.R. § 1.78(a)(3) TO ACCEPT AN UNINTENTIONALLY DELAYED PRIORITY CLAIM UNDER 35 U.S.C. § 120

Madam:

Applicants respectfully submit this Petition Under 37 C.F.R. § 1.78(a)(3) to Accept an Unintentionally Delayed Priority Claim Under 35 U.S.C. § 120 ("the Petition").

The instant application is a continuation-in-part of several related co-pending applications. Applicants only recently noticed that the priority chains for some of the applications of which the instant application is a continuation-in-part were not set forth completely in the priority claim when the instant application was filed, nor were they set forth completely in the priority claim filed in a preliminary amendment on December 16, 2011. Applicants note, however, that each of the applications that would have been included in the priority chains, had the priority chains been set forth completely, were all referenced at least once elsewhere in the priority claim submitted in the preliminary amendment filed on December 16, 2011. Accordingly, no new matter is being added with the submission of this Petition.

Out of an abundance of caution, Applicants are filing this Petition to provide the complete priority chains for all of the applications referenced in the priority claim. The Petition also deletes, from the listing of applications of which the instant application is a continuation-in-

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part, the reference to U.S. Application No. 12/380,771, which issued as U.S. Patent No. 8,023,425 before the instant application was filed.

The entire delay between the date the claim was due and the date the claim is being filed with this Petition was unintentional. Immediately after noticing that complete priority chains had not been set forth for some of the referenced applications in the instant application, and that the priority claims in several related applications likewise did not provide complete priority chains for all referenced applications, Applicants began preparing a set of petitions, including this Petition, to provide complete priority chains for all referenced applications.

As required by 37 C.F.R. § 1.78(a)(3), in addition to the statement above that the entire delay between the date the claim was due and the date the claim is being filed with this Petition was unintentional, this Petition is accompanied by:

(1) an application data sheet (ADS) containing the reference required by 35 U.S.C. § 120 and 37 C.F.R. § 1.78(a)(2); and

(2) the fee set forth in 37 C.F.R. § 1.17(t).

In addition to the reference provided in the ADS, Applicants are providing, starting on page 3 of this paper, replacement paragraphs [0001a]-[0001n], [0002], [0003], and [0004] for paragraphs [0001] through [0004] of the specification, which set forth the priority claim. The replacement paragraphs are offered to bring the priority recitations in the specification into alignment with the ADS being filed with the Petition. Applicants have verified that the replacement paragraphs do not incorporate by reference any applications that were not already incorporated by reference on the instant application's filing date.

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AMENDMENTS TO THE SPECIFICATION

Please replace paragraphs **[0001]** through **[0004]** of the specification with the following replacement paragraphs:

[0001a] This application is a continuation-in-part of the following U.S. non-provisional patent applications: U.S. Application No. 12/380,759 (Attorney Docket No. RALEP001), filed March 2, 2009, entitled VERIFIABLE DEVICE ASSISTED SERVICE POLICY IMPLEMENTATION, now U.S. Patent No. 8,270,310 (issued on September 18, 2012); U.S. Application No. 12/380,779 (Attorney Docket No. RALEP002), filed March 2, 2009, entitled DEVICE ASSISTED SERVICE PROFILE MANAGEMENT WITH USER PREFERENCE, ADAPTIVE POLICY, NETWORK NEUTRALITY, AND USER PRIVACY; U.S. Application No. 12/380,758 (Attorney Docket No. RALEP003), filed March 2, 2009, entitled VERIFIABLE DEVICE ASSISTED SERVICE USAGE MONITORING WITH REPORTING, SYNCHRONIZATION, AND NOTIFICATION; U.S. Application No. 12/380,778 (Attorney Docket No. RALEP004), filed March 2, 2009, entitled VERIFIABLE DEVICE ASSISTED SERVICE USAGE BILLING WITH INTEGRATED ACCOUNTING, MEDIATION ACCOUNTING, AND MULTI-ACCOUNT, now U.S. Patent No. 8,321,526 (issued on November 27, 2012); U.S. Application No. 12/380,768 (Attorney Docket No. RALEP005), filed March 2, 2009, entitled NETWORK BASED SERVICE POLICY IMPLEMENTATION WITH NETWORK NEUTRALITY AND USER PRIVACY; U.S. Application No. 12/380,767 (Attorney Docket No. RALEP006), filed March 2, 2009, entitled NETWORK BASED SERVICE PROFILE MANAGEMENT WITH USER PREFERENCE, ADAPTIVE POLICY, NETWORK NEUTRALITY AND USER PRIVACY, now U.S. Patent No. 8,355,337 (issued on January 15, 2013); U.S. Application No. 12/380,780 (Attorney Docket No. RALEP007), filed March 2, 2009, entitled AUTOMATED DEVICE PROVISIONING AND ACTIVATION; U.S. Application No. 12/380,755 (Attorney Docket No. RALEP008), filed March 2, 2009, entitled DEVICE ASSISTED AMBIENT SERVICES, now U.S. Patent No. 8,331,901 (issued December 11, 2012); U.S. Application No. 12/380,756 (Attorney Docket No. RALEP009), filed March 2, 2009, entitled NETWORK BASED AMBIENT SERVICES, now U.S. Patent No. 8,250,207 (issued August 21, 2012); U.S. Application No. 12/380,770 (Attorney Docket No. RALEP010), filed March 2, 2009, entitled NETWORK TOOLS FOR ANALYSIS, DESIGN,

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TESTING, AND PRODUCTION OF SERVICES, now abandoned; U.S. Application No. 12/380,772 (Attorney Docket No. RALEP011), filed March 2, 2009, entitled ROAMING SERVICES NETWORK AND OVERLAY NETWORKS; U.S. Application No. 12/380,782 (Attorney Docket No. RALEP012), filed March 2, 2009, entitled OPEN DEVELOPMENT SYSTEM FOR ACCESS SERVICE PROVIDERS, now U.S. Patent No. 8,270,952 (issued September 18, 2012); U.S. Application No. 12/380,783 (Attorney Docket No. RALEP013), filed March 2, 2009, entitled VIRTUAL SERVICE PROVIDER SYSTEMS; U.S. Application No. 12/380,757 (Attorney Docket No. RALEP014), filed March 2, 2009, entitled SERVICE ACTIVATION TRACKING SYSTEM, now U.S. Patent No. 8,326,958 (issued December 4, 2012); U.S. Application No. 12/380,781 (Attorney Docket No. RALEP015), filed March 2, 2009, entitled OPEN TRANSACTION CENTRAL BILLING SYSTEM, now U.S. Patent No. 8,229,812 (issued July 24, 2012); U.S. Application No. 12/380,774 (Attorney Docket No. RALEP016), filed March 2, 2009, entitled VERIFIABLE AND ACCURATE SERVICE USAGE MONITORING FOR INTERMEDIATE NETWORKING DEVICES; U.S. Application No. 12/380,773 (Attorney Docket No. RALEP018), filed March 2, 2009, entitled VERIFIABLE SERVICE POLICY IMPLEMENTATION FOR INTERMEDIATE NETWORKING DEVICES; U.S. Application No. 12/380,769 (Attorney Docket No. RALEP019), filed March 2, 2009, entitled SERVICE PROFILE MANAGEMENT WITH USER PREFERENCE, ADAPTIVE POLICY, NETWORK NEUTRALITY AND USER PRIVACY FOR INTERMEDIATE NETWORKING DEVICES; U.S. Application No. 12/380,777 (Attorney Docket No. RALEP020), filed March 2, 2009, entitled SIMPLIFIED SERVICE NETWORK ARCHITECTURE, each of which claims the benefit of U.S. Provisional Application Nos. 61/206,354 (Attorney Docket No. RALEP001+), filed January 28, 2009, entitled SERVICES POLICY COMMUNICATION SYSTEM AND METHOD; 61/206,944 (Attorney Docket No. RALEP002+), filed February 4, 2009, entitled SERVICES POLICY COMMUNICATION SYSTEM AND METHOD; 61/207,393 (Attorney Docket No. RALEP003+), filed February 10, 2009, entitled SERVICES POLICY COMMUNICATION SYSTEM AND METHOD; and 61/207,739 (Attorney Docket No. RALEP004+), entitled SERVICES POLICY COMMUNICATION SYSTEM AND METHOD, filed February 13, 2009.

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[0001b] This application is also a continuation-in-part of U.S. Application No. 12/695,019 (Attorney Docket No. RALEP022), filed January 27, 2010, entitled DEVICE ASSISTED CDR CREATION, AGGREGATION, MEDIATION AND BILLING, now U.S. Patent No. 8,275,830 (issued September 25, 2012), which is a continuation-in-part of above-referenced U.S. Application No. 12/380,778, filed March 2, 2009, and is also a continuation-in-part of U.S. Application No. 12/380,771 (Attorney Docket No. RALEP017), filed March 2, 2009, entitled VERIFIABLE SERVICE BILLING FOR INTERMEDIATE NETWORKING DEVICES, now U.S. Patent No. 8,023,425 (issued September 20, 2011), and which claims the benefit of U.S. Provisional Application Nos. 61/206,354, filed January 28, 2009; 61/206,944, filed February 4, 2009; 61/207,393, filed February 10, 2009; 61/207,739, filed February 13, 2009; 61/270,353 (Attorney Docket No. RALEP022+), filed July 6, 2009, entitled DEVICE ASSISTED CDR CREATION, AGGREGATION, MEDIATION AND BILLING; and 61/264,126 (Attorney Docket No. RALEP028+), filed November 24, 2009, entitled DEVICE ASSISTED SERVICES ACTIVITY MAP. Above-referenced U.S. Application No. 12/380,771, filed March 2, 2009, claims the benefit of U.S. Provisional Application Nos. 61/206,354, filed January 28, 2009; 61/206,944, filed February 4, 2009; 61/207,393, filed February 10, 2009; and 61/207,739, filed February 13, 2009.

[0001c] This application is also a continuation-in-part of U.S. Application No. 12/695,020 (Attorney Docket No. RALEP024), filed January 27, 2010, entitled ADAPTIVE AMBIENT SERVICES, now U.S. Patent No. 8,406,748 (issued on March 26, 2013), which is a continuation-in-part of above-referenced U.S. Application No. 12/380,780, filed March 2, 2009, and which claims the benefit of U.S. Provisional Application Nos. 61/206,354, filed January 28, 2009; 61/206,944, filed February 4, 2009; 61/207,393, filed February 10, 2009; 61/207,739, filed February 13, 2009; 61/275,208 (Attorney Docket No. RALEP023+), filed August 25, 2009, entitled ADAPTIVE AMBIENT SERVICES; and 61/237,753 (Attorney Docket No. RALEP024+), filed August 28, 2009, entitled ADAPTIVE AMBIENT SERVICES.

[0001d] This application is also a continuation-in-part of U.S. Application No. 12/694,445 (Attorney Docket No. RALEP025), filed January 27, 2010, entitled SECURITY TECHNIQUES FOR DEVICE ASSISTED SERVICES, now U.S. Patent No. 8,391,834 (issued March 5, 2013), which is a continuation-in-part of above-referenced U.S. Application No. 12/380,780, filed

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March 2, 2009, and which claims the benefit of U.S. Provisional Application Nos. 61/206,354, filed January 28, 2009; 61/206,944, filed February 4, 2009; 61/207,393, filed February 10, 2009; 61/207,739, filed February 13, 2009; and 61/252,151 (Attorney Docket No. RALEP025+), filed October 15, 2009, entitled SECURITY TECHNIQUES FOR DEVICE ASSISTED SERVICES.

[0001e] This application is also a continuation-in-part of U.S. Application No. 12/694,451 (Attorney Docket No. RALEP026), filed January 27, 2010, entitled DEVICE GROUP PARTITIONS AND SETTLEMENT PLATFORM, which is a continuation-in-part of above-referenced U.S. Application No. 12/380,780, filed March 2, 2009, and which claims the benefit of U.S. Provisional Application Nos. 61/206,354, filed January 28, 2009; 61/206,944, filed February 4, 2009; 61/207,393, filed February 10, 2009; 61/207,739, filed February 13, 2009; 61/270,353, filed July 6, 2009; and 61/252,153 (Attorney Docket No. RALEP026+), filed October 15, 2009, entitled DEVICE GROUP PARTITIONS AND SETTLEMENT PLATFORM.

[0001f] This application is also a continuation-in-part of U.S. Application No. 12/694,455 (Attorney Docket No. RALEP027), filed January 27, 2010, entitled DEVICE ASSISTED SERVICES INSTALL, now U.S. Patent No. 8,402,111 (issued on March 19, 2013), which is a continuation-in-part of above-referenced U.S. Application No. 12/380,780, filed March 2, 2009, and which claims the benefit of U.S. Provisional Application Nos. 61/206,354, filed January 28, 2009; 61/206,944, filed February 4, 2009; 61/207,393, filed February 10, 2009; 61/207,739, filed February 13, 2009; and 61/264,120 (Attorney Docket No. RALEP027+), filed November 24, 2009, entitled DEVICE ASSISTED SERVICES INSTALL.

[0001g] This application is also a continuation-in-part of U.S. Application No. 12/695,021 (Attorney Docket No. RALEP029), filed January 27, 2010, entitled QUALITY OF SERVICE FOR DEVICE ASSISTED SERVICES, now U.S. Patent No. 8,346,225 (issued January 1, 2013), which is a continuation-in-part of above-referenced U.S. Application No. 12/380,780, filed March 2, 2009, and which claims the benefit of U.S. Provisional Application Nos. 61/206,354, filed January 28, 2009; 61/206,944, filed February 4, 2009; 61/207,393, filed February 10, 2009; 61/207,739, filed February 13, 2009; 61/252,151, filed October 15, 2009; and 61/252,153, filed October 15, 2009.

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[0001h] This application is also a continuation-in-part of U.S. Application No. 12/695,980 (Attorney Docket No. RALEP030), filed January 28, 2010, entitled ENHANCED ROAMING SERVICES AND CONVERGED CARRIER NETWORKS WITH DEVICE ASSISTED SERVICES AND A PROXY, now U.S. Patent No. 8,340,634 (issued December 25, 2012), which is a continuation-in-part of above-referenced U.S. Application Nos. 12/380,780, filed March 2, 2009; 12/695,019, filed January 27, 2010; and 12/695,021, filed January 27, 2010, and which claims the benefit of U.S. Provisional Application Nos. 61/206,354, filed January 28, 2009; 61/206,944, filed February 4, 2009; 61/207,393, filed February 10, 2009; 61/207,739, filed February 13, 2009; and 61/270,353, filed July 6, 2009.

[0001i] This application is also a continuation-in-part of U.S. Application No. 13/134,005 (Attorney Docket No. RALEP049), filed May 25, 2011, entitled SYSTEM AND METHOD FOR WIRELESS NETWORK OFFLOADING, which is a continuation-in-part of above-referenced U.S. Application Nos. 12/380,759, filed March 2, 2009; 12/380,779, filed March 2, 2009; 12/380,758, filed March 2, 2009; 12/380,778, filed March 2, 2009; 12/380,768, filed March 2, 2009; 12/380,767, filed March 2, 2009; 12/380,780, filed March 2, 2009; 12/380,755, filed March 2, 2009; 12/380,756, filed March 2, 2009; 12/380,770, filed March 2, 2009; 12/380,772, filed March 2, 2009; 12/380,782, filed March 2, 2009; 12/380,783, filed March 2, 2009; 12/380,757, filed March 2, 2009; 12/380,781, filed March 2, 2009; 12/380,774, filed March 2, 2009; 12/380,771, filed March 2, 2009; 12/380,773, filed March 2, 2009; 12/380,769, filed March 2, 2009; 12/380,777, filed March 2, 2009; 12/695,019, filed January 27, 2010; 12/695,020, filed January 27, 2010; 12/694,445, filed January 27, 2010; 12/694,451, filed January 27, 2010; 12/694,455, filed January 27, 2010; 12/695,021, filed January 27, 2010; and 12/695,980, filed January 28, 2010, and which claims the benefit of U.S. Provisional Application Nos. 61/348,022 (Attorney Docket No. RALEP031+), filed May 25, 2010, entitled DEVICE ASSISTED SERVICES FOR PROTECTING NETWORK CAPACITY; 61/381,159 (Attorney Docket No. RALEP032+), filed September 9, 2010, entitled DEVICE ASSISTED SERVICES FOR PROTECTING NETWORK CAPACITY; 61/381,162 (Attorney Docket No. RALEP033+), filed September 9, 2010, entitled SERVICE CONTROLLER INTERFACES AND WORKFLOWS; 61/384,456 (Attorney Docket No. RALEP034+), filed September 20, 2010, entitled SECURING SERVICE PROCESSOR WITH SPONSORED SIMS; 61/389,547 (Attorney Docket No. RALEP035+), filed October 4, 2010, entitled USER NOTIFICATIONS

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FOR DEVICE ASSISTED SERVICES; 61/385,020 (Attorney Docket No. RALEP036+), filed September 21, 2010, entitled SERVICE USAGE RECONCILIATION SYSTEM OVERVIEW; 61/387,243 (Attorney Docket No. RALEP037+), filed September 28, 2010, entitled ENTERPRISE AND CONSUMER BILLING ALLOCATION FOR WIRELESS COMMUNICATION DEVICE SERVICE USAGE ACTIVITIES; 61/387,247 (Attorney Docket No. RALEP038+), filed September 28, 2010 entitled SECURED DEVICE DATA RECORDS; 61/407,358 (Attorney Docket No. RALEP039+), filed October 27, 2010, entitled SERVICE CONTROLLER AND SERVICE PROCESSOR ARCHITECTURE; 61/418,507 (Attorney Docket No. RALEP040+), filed December 1, 2010, entitled APPLICATION SERVICE PROVIDER INTERFACE SYSTEM; 61/418,509 (Attorney Docket No. RALEP041+), filed December 1, 2010, entitled SERVICE USAGE REPORTING RECONCILIATION AND FRAUD DETECTION FOR DEVICE ASSISTED SERVICES; 61/420,727 (Attorney Docket No. RALEP042+), filed December 7, 2010, entitled SECURE DEVICE DATA RECORDS; 61/422,565 (Attorney Docket No. RALEP043+), filed December 13, 2010, entitled SERVICE DESIGN CENTER FOR DEVICE ASSISTED SERVICES; 61/422,572 (Attorney Docket No. RALEP044+), filed December 13, 2010, entitled SYSTEM INTERFACES AND WORKFLOWS FOR DEVICE ASSISTED SERVICES; 61/422,574 (Attorney Docket No. RALEP045+), filed December 13, 2010, entitled SECURITY AND FRAUD DETECTION FOR DEVICE ASSISTED SERVICES; 61/435,564 (Attorney Docket No. RALEP046+), filed January 24, 2011, entitled FRAMEWORK FOR DEVICE ASSISTED SERVICES; and 61/472,606 (Attorney Docket No. RALEP047+), filed April 6, 2011, entitled MANAGING SERVICE USER DISCOVERY AND SERVICE LAUNCH OBJECT PLACEMENT ON A DEVICE.

[0001j] This application is also a continuation-in-part of U.S. Application No.13/134,028 (Attorney Docket No. RALEP032), filed May 25, 2011, entitled DEVICE-ASSISTED SERVICES FOR PROTECTING NETWORK CAPACITY, which is a continuation-in-part of above-referenced U.S. Application Nos. 12/380,759, filed March 2, 2009; 12/380,779, filed March 2, 2009; 12/380,758, filed March 2, 2009; 12/380,778, filed March 2, 2009; 12/380,768, filed March 2, 2009; 12/380,767, filed March 2, 2009; 12/380,780, filed March 2, 2009; 12/380,755, filed March 2, 2009; 12/380,756, filed March 2, 2009; 12/380,770, filed March 2, 2009; 12/380,772, filed March 2, 2009; 12/380,782, filed March 2, 2009; 12/380,783, filed

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March 2, 2009; 12/380,757, filed March 2, 2009; 12/380,781, filed March 2, 2009; 12/380,774, filed March 2, 2009; 12/380,771, filed March 2, 2009; 12/380,773, filed March 2, 2009; 12/380,769, filed March 2, 2009; 12/380,777, filed March 2, 2009; 12/695,019, filed January 27, 2010; 12/695,020, filed January 27, 2010; 12/694,445, filed January 27, 2010; 12/694,451, filed January 27, 2010; 12/694,455, filed January 27, 2010; 12/695,021, filed January 27, 2010; 12/695,980, filed January 28, 2010; and 13/134,005, filed May 25, 2011, and which claims the benefit of U.S. Provisional Application Nos. 61/348,022, filed May 25, 2010; 61/381,159, filed September 9, 2010; 61/381,162, filed September 9, 2010; 61/384,456, filed September 20, 2010; 61/389,547, filed October 4, 2010; 61/385,020, filed September 21, 2010; 61/387,243, filed September 28, 2010; 61/387,247, filed September 28; 61/407,358, filed October 27, 2010; 61/418,507, filed December 1, 2010; 61/418,509, filed December 1, 2010; 61/420,727, filed December 7, 2010; 61/422,565, filed December 13, 2010; 61/422,572, filed December 13, 2010; 61/422,574, filed December 13, 2010; 61/435,564, filed January 24, 2011; and 61/472,606, filed April 6, 2011.

[0001k] This application is also a continuation-in-part of U.S. Application No.13/229,580 (Attorney Docket No. RALEP033), filed September 9, 2011, entitled WIRELESS NETWORK SERVICE INTERFACES, which is a continuation-in-part of above-referenced U.S. Application Nos. 12/380,759, filed March 2, 2009; 12/380,779, filed March 2, 2009; 12/380,758, filed March 2, 2009; 12/380,778, filed March 2, 2009; 12/380,768, filed March 2, 2009; 12/380,767, filed March 2, 2009; 12/380,780, filed March 2, 2009; 12/380,755, filed March 2, 2009; 12/380,756, filed March 2, 2009; 12/380,770, filed March 2, 2009; 12/380,772, filed March 2, 2009; 12/380,782, filed March 2, 2009; 12/380,783, filed March 2, 2009; 12/380,757, filed March 2, 2009; 12/380,781, filed March 2, 2009; 12/380,774, filed March 2, 2009; 12/380,771, filed March 2, 2009; 12/380,773, filed March 2, 2009; 12/380,769, filed March 2, 2009; 12/380,777, filed March 2, 2009; 12/695,019, filed January 27, 2010; 12/695,020, filed January 27, 2010; 12/694,445, filed January 27, 2010; 12/694,451, filed January 27, 2010; 12/694,455, filed January 27, 2010; 12/695,021, filed January 27, 2010; 12/695,980, filed January 28, 2010; 13/134,005, filed May 25, 2011; and 13/134,028, filed May 25, 2011, and which claims the benefit of U.S. Provisional Application Nos. 61/381,159, filed September 9, 2010; 61/381,162, filed September 9, 2010; 61/384,456, filed September 20, 2010; 61/389,547, filed October 4, 2010; 61/385,020, filed September 21, 2010; 61/387,243, filed September 28, 2010;

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61/387,247, filed September 28; 61/407,358, filed October 27, 2010; 61/418,507, filed December 1, 2010; 61/418,509, filed December 1, 2010; 61/420,727, filed December 7, 2010; 61/422,565, filed December 13, 2010; 61/422,572, filed December 13, 2010; 61/422,574, filed December 13, 2010; 61/435,564, filed January 24, 2011; and 61/472,606, filed April 6, 2011.

[0001l] This application is also a continuation-in-part of U.S. Application No.13/237,827 (Attorney Docket No. RALEP034), filed September 20, 2011, entitled ADAPTING NETWORK POLICIES BASED ON DEVICE SERVICE PROCESSOR CONFIGURATION, which is a continuation-in-part of above-referenced U.S. Application Nos. 12/380,759, filed March 2, 2009; 12/380,779, filed March 2, 2009; 12/380,758, filed March 2, 2009; 12/380,778, filed March 2, 2009; 12/380,768, filed March 2, 2009; 12/380,767, filed March 2, 2009; 12/380,780, filed March 2, 2009; 12/380,755, filed March 2, 2009; 12/380,756, filed March 2, 2009; 12/380,770, filed March 2, 2009; 12/380,772, filed March 2, 2009; 12/380,782, filed March 2, 2009; 12/380,783, filed March 2, 2009; 12/380,757, filed March 2, 2009; 12/380,781, filed March 2, 2009; 12/380,774, filed March 2, 2009; 12/380,773, filed March 2, 2009; 12/380,769, filed March 2, 2009; 12/380,777, filed March 2, 2009; 12/695,019, filed January 27, 2010; 12/695,020, filed January 27, 2010; 12/694,445, filed January 27, 2010; 12/694,451, filed January 27, 2010; 12/694,455, filed January 27, 2010; 12/695,021, filed January 27, 2010; 12/695,980, filed January 28, 2010; 13/134,005, filed May 25, 2011; 13/134,028, filed May 25, 2011; and 13/229,580, filed September 9, 2011, and which claims the benefit of U.S. Provisional Application Nos. 61/384,456, filed September 20, 2010; 61/389,547, filed October 4, 2010; 61/385,020, filed September 21, 2010; 61/387,243, filed September 28, 2010; 61/387,247, filed September 28; 61/407,358, filed October 27, 2010; 61/418,507, filed December 1, 2010; 61/418,509, filed December 1, 2010; 61/420,727, filed December 7, 2010; 61/422,565, filed December 13, 2010; 61/422,572, filed December 13, 2010; 61/422,574, filed December 13, 2010; 61/435,564, filed January 24, 2011; and 61/472,606, filed April 6, 2011.

[0001m] This application is also a continuation-in-part of U.S. Application No. 13/239,321 (Attorney Docket No. RALEP036), filed September 21, 2011, entitled SERVICE OFFER SET PUBLISHING TO DEVICE AGENT WITH ON-DEVICE SERVICE SELECTION, which is a continuation-in-part of above-referenced U.S. Application Nos. 12/380,759, filed March 2, 2009; 12/380,779, filed March 2, 2009; 12/380,758, filed March 2, 2009; 12/380,778, filed

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March 2, 2009; 12/380,768, filed March 2, 2009; 12/380,767, filed March 2, 2009; 12/380,780, filed March 2, 2009; 12/380,755, filed March 2, 2009; 12/380,756, filed March 2, 2009; 12/380,770, filed March 2, 2009; 12/380,772, filed March 2, 2009; 12/380,782, filed March 2, 2009; 12/380,783, filed March 2, 2009; 12/380,757, filed March 2, 2009; 12/380,781, filed March 2, 2009; 12/380,774, filed March 2, 2009; 12/380,773, filed March 2, 2009; 12/380,769, filed March 2, 2009; 12/380,777, filed March 2, 2009; 12/695,019, filed January 27, 2010; 12/695,020, filed January 27, 2010; 12/694,445, filed January 27, 2010; 12/694,451, filed January 27, 2010; 12/694,455, filed January 27, 2010; 12/695,021, filed January 27, 2010; 12/695,980, filed January 28, 2010; 13/134,005, filed May 25, 2011; 13/134,028, filed May 25, 2011; 13/229,580, filed September 9, 2011; and 13/237,827, filed September 20, 2011, and which claims the benefit of U.S. Provisional Application Nos. 61/389,547, filed October 4, 2010; 61/385,020, filed September 21, 2010; 61/387,243, filed September 28, 2010; 61/387,247, filed September 28; 61/407,358, filed October 27, 2010; 61/418,507, filed December 1, 2010; 61/418,509, filed December 1, 2010; 61/420,727, filed December 7, 2010; 61/422,565, filed December 13, 2010; 61/422,572, filed December 13, 2010; 61/422,574, filed December 13, 2010; 61/435,564, filed January 24, 2011; and 61/472,606, filed April 6, 2011.

[0001n] This application is also a continuation-in-part of U.S. Application No.13/248,028 (Attorney Docket No. RALEP037), filed September 28, 2011, entitled ENTERPRISE ACCESS CONTROL AND ACCOUNTING ALLOCATION FOR ACCESS NETWORKS, which is a continuation-in-part of above-referenced U.S. Application Nos. 12/380,759, filed March 2, 2009; 12/380,779, filed March 2, 2009; 12/380,758, filed March 2, 2009; 12/380,778, filed March 2, 2009; 12/380,768, filed March 2, 2009; 12/380,767, filed March 2, 2009; 12/380,780, filed March 2, 2009; 12/380,755, filed March 2, 2009; 12/380,756, filed March 2, 2009; 12/380,770, filed March 2, 2009; 12/380,772, filed March 2, 2009; 12/380,782, filed March 2, 2009; 12/380,783, filed March 2, 2009; 12/380,757, filed March 2, 2009; 12/380,781, filed March 2, 2009; 12/380,774, filed March 2, 2009; 12/380,773, filed March 2, 2009; 12/380,769, filed March 2, 2009; 12/380,777, filed March 2, 2009; 12/695,019, filed January 27, 2010; 12/695,020, filed January 27, 2010; 12/694,445, filed January 27, 2010; 12/694,451, filed January 27, 2010; 12/694,455, filed January 27, 2010; 12/695,021, filed January 27, 2010; 12/695,980, filed January 28, 2010; 13/134,005, filed May 25, 2011; 13/134,028, filed May 25, 2011; 13/229,580, filed September 9, 2011; 13/237,827, filed September 20, 2011; 13/239,321,

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filed September 21, 2011; 13/248,025, filed September 28, 2011; and U.S. Application No. 13/247,998 (Attorney Docket No. RALEP038), filed September 28, 2011, entitled SECURE DEVICE DATA RECORDS, and which claims the benefit of U.S. Provisional Application Nos. 61/389,547, filed October 4, 2010; 61/387,243, filed September 28, 2010; 61/387,247, filed September 28; 61/407,358, filed October 27, 2010; 61/418,507, filed December 1, 2010; 61/418,509, filed December 1, 2010; 61/420,727, filed December 7, 2010; 61/422,565, filed December 13, 2010; 61/422,572, filed December 13, 2010; 61/422,574, filed December 13, 2010; 61/435,564, filed January 24, 2011; and 61/472,606, filed April 6, 2011.

[0002] This application is also a continuation-in-part of above-referenced U.S. Application No. 13/247,998, filed September 28, 2011, which is a continuation-in-part of above-referenced U.S. Application Nos. 12/380,759, filed March 2, 2009; 12/380,779, filed March 2, 2009; 12/380,758, filed March 2, 2009; 12/380,778, filed March 2, 2009; 12/380,768, filed March 2, 2009; 12/380,767, filed March 2, 2009; 12/380,780, filed March 2, 2009; 12/380,755, filed March 2, 2009; 12/380,756, filed March 2, 2009; 12/380,770, filed March 2, 2009; 12/380,772, filed March 2, 2009; 12/380,782, filed March 2, 2009; 12/380,783, filed March 2, 2009; 12/380,757, filed March 2, 2009; 12/380,781, filed March 2, 2009; 12/380,774, filed March 2, 2009; 12/380,773, filed March 2, 2009; 12/380,769, filed March 2, 2009; 12/380,777, filed March 2, 2009; 12/695,019, filed January 27, 2010; 12/695,020, filed January 27, 2010; 12/694,445, filed January 27, 2010; 12/694,451, filed January 27, 2010; 12/694,455, filed January 27, 2010; 12/695,021, filed January 27, 2010; and 12/695,980, filed January 28, 2010; 13/134,005, filed May 25, 2011; 13/134,028, filed May 25, 2011; 13/229,580, filed September 9, 2011; 13/237,827, filed September 20, 2011; 13/239,321, filed September 21, 2011; 13/248,028, filed September 28, 2011; and 13/248,025, filed September 28, 2011, and which claims the benefit of U.S. Provisional Application Nos. 61/389,547, filed October 4, 2010; 61/387,243, filed September 28, 2010; 61/387,247, filed September 28; 61/407,358, filed October 27, 2010; 61/418,507, filed December 1, 2010; 61/418,509, filed December 1, 2010; 61/420,727, filed December 7, 2010; 61/422,565, filed December 13, 2010; 61/422,572, filed December 13, 2010; 61/422,574, filed December 13, 2010; 61/435,564, filed January 24, 2011; and 61/472,606, filed April 6, 2011.

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[0003] Additionally, this application claims the benefit of the following U.S. Provisional Applications: 61/389,547, filed October 4, 2010; 61/387,243, filed September 28, 2010; 61/387,247, filed September 28; 61/407,358, filed October 27, 2010; 61/418,507, filed December 1, 2010; 61/418,509, filed December 1, 2010; 61/420,727, filed December 7, 2010; 61/422,565, filed December 13, 2010; 61/422,572, filed December 13, 2010; 61/422,574, filed December 13, 2010; 61/435,564, filed January 24, 2011; and 61/472,606, filed April 6, 2011.

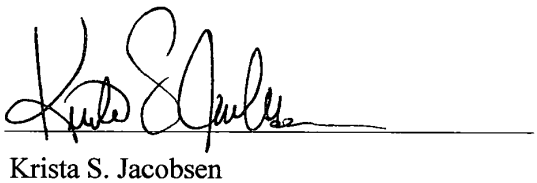
[0004] All of the above-identified patents and applications are hereby incorporated by reference.

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Petitioners' Exhibit 1002
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CONCLUSION

The Commissioner is authorized to charge any fee deficiency or credit any overpayment to Deposit Account 50-5876.

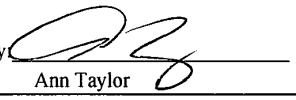
Respectfully submitted,

Date: August 30, 2013 By: 

Krista S. Jacobsen
Reg. No. 59,374
Head Counsel
Headwater Partners I LLC
350 Marine Parkway, Suite 300
Redwood Shores, CA 94065
(650) 517-2798

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	13248025
Filing Date	2011-09-28
First Named Inventor	Raleigh, Gregory G.
Art Unit	3687
Examiner Name	Rudy, Andrew J.
Attorney Docket Number	RALEP043

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	8270972		2012-09-18	Otting, Marcia J. et al.	
	2	8200509		2012-06-12	Kenedy, Andrew Alexander et al.	
	3	7948953		2011-05-24	Melkote, Keerti G. et al.	
	4	7593730		2009-09-22	Khandelwal, Deepak et al.	
	5	7583964		2009-09-01	Wong, Gregory A.	
	6	7039403		2006-05-02	Wong, Gregory A.	
	7	5814798		1998-09-29	Zancho, William F.	
	8	5633484		1997-05-27	Zhancho, William F. et al.	

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	Art Unit	3687
	Examiner Name	Rudy, Andrew J.
	Attorney Docket Number	RALEP043

	9	5630159		1997-05-13	Zancho, William F.	

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	First Named Inventor	Raleigh, Gregory G.
	Art Unit	3687
	Examiner Name	Rudy, Andrew J.
	Attorney Docket Number	RALEP043

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

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	Examiner Name	Rudy, Andrew J.
	Attorney Docket Number	RALEP043

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☒ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

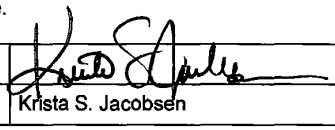
☐ See attached certification statement.

☒ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	2013-08-15
Name/Print	Krista S. Jacobsen	Registration Number	59374

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	Attorney Docket Number	RALEP043

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

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	First Named Inventor	Raleigh, Gregory G.
	Art Unit	3687
	Examiner Name	Rudy, Andrew J.
	Attorney Docket Number	RALEP043

	1	European Search Report and Opinion mailed May 15, 2013; 11831032.5 - 1957; PCT/US2011001675	☐

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	Art Unit	3687
	Examiner Name	Rudy, Andrew J.
	Attorney Docket Number	RALEP043

CERTIFICATION STATEMENT

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OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

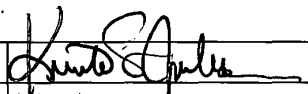
☐ See attached certification statement.

☒ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	2013-08-14
Name/Print	Krista S. Jacobsen	Registration Number	59374

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	First Named Inventor	Raleigh, Gregory G.
	Art Unit	3687
	Examiner Name	Rudy, Andrew J.
	Attorney Docket Number	RALEP043

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7881697		2011-02-01	Baker, Matthew Donald et al.	
	2	7899438		2011-03-01	Baker, Matthew Donald et al.	
	3	7945238		2011-05-17	Baker, Matthew Donald et al.	
	4	8078140		2011-12-13	Baker, Matthew Donald et al.	
	5	8285249		2012-10-09	Baker, Matthew Donald et al.	
	6	7493659		2009-02-17	Wu, Handong et al.	
	7	7801985		2010-09-21	Pitkow, Jim et al.	
	8	8242959		2012-08-14	Mia, Rashidus S. et al.	

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	9	8326319		2012-12-04	Davis, Richard W.	
	10	8019886		2011-09-13	Harrang, Jeffrey Paul et al.	
	11	7102620		2006-09-05	Harries, Andrew Stanely Guy et al.	
	12	7139569		2006-11-21	Kato, Akira	
	13	7529204		2009-05-05	Bourlas, Yair et al.	
	14	7720960		2010-05-18	Pruss, Richard Manfred et al.	
	15	7969950		2011-06-28	Iyer, Pradeep J. et al.	
	16	8032409		2011-10-04	Mikurak, Michael G.	
	17	8045973		2011-10-25	Chambers, Michael D.	
	18	8116781		2012-02-14	Chen, Xixian et al.	
	19	8126396		2012-02-28	Bennett, James D.	

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	20	8447980		2013-05-21	Godfrey, James A. et al.	
	21	8429403		2013-04-23	Moret, Eric et al.	
	22	8411587		2013-04-02	Curtis, William et al.	
	23	8396929		2013-03-12	Helfman, Nadav et al.	
	24	8363658		2013-01-29	Delker, Jason R. et al.	
	25	8265004		2012-09-11	Toutonghi, Michael J.	
	26	8233895		2012-07-31	Tysowski, Piotr Konrad	
	27	7685254		2010-03-23	Pandya, Ashish A.	
	28	7181017		2007-02-20	Nagel, Robert H. et al.	
	29	6965872		2005-11-15	Grdina, Jerome M.	
	30	8406427		2013-03-26	Chand, Naresh et al.	

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	31	8351898		2013-01-08	Raleigh, Gregory G.	
	32	8402540		2013-03-19	Kapoor, Harsh et al.	
	33	8135657		2013-03-13	Kapoor, Harsh et al.	
	34	8271992		2012-09-18	Chatley, Scott P. et al.	
	35	8315999		2012-11-20	Chatley, Scott P. et al.	
	36	8332375		2012-12-11	Chatley, Scott P. et al.	
	37	8468337		2013-06-18	Gaur, Santosh P. et al.	
	38	8477778		2013-07-02	Lehmann Jr., L. Curtis et al.	
	39	8352630		2013-01-08	Hart, Justin Scott	
	40	6640097		2003-10-28	Corrigan, Louis et al.	
	41	7039713		2006-05-02	Van Gunter, David et al.	

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	42	5915008		1999-06-22	Dulman, Scott	
	43	8126476		2012-02-28	Vardi, Yosef et al.	
	44	8000276		2011-08-16	Scherzer, Shimon et al.	
	45	8358638		2013-01-22	Scherzer, Tamir et al.	
	46	8356336		2013-01-15	Johnston, Keith et al.	
	47	8307067		2012-11-06	Ryan, Nicholas M.	
	48	7286848		2007-10-23	Vireday, Richard P. et al.	
	49	7313237		2007-12-25	Bahl, Paramvir et al.	
	50	7444669		2008-10-28	Bahl, Paramvir et al.	
	51	7548976		2009-06-16	Bahl, Paramvir et al.	
	52	8027339		2011-09-27	Short, Joel E. et al.	

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	53	8095112		2012-01-10	Chow, Richard et al.	
	54	8369274		2013-02-05	Sawai, Ryo	

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U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20070300252		2007-12-27	Acharya, Swarup et al.	
	2	20050007993		2005-01-13	Chambers, Mahdi et al.	
	3	20020164983		2002-11-07	Raviv, Li-On et al.	
	4	20070280453		2007-12-06	Kelley, Sean S.	
	5	20100241544		2010-09-23	Benson, Dan et al.	
	6	20090157792		2009-06-18	Fiatal, Trevor	
	7	20070109983		2007-05-17	Shankar, Rohit et al.	

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	8	20020049074		2002-04-25	Eisinger, Bernd et al.	
	9	20020161601		2002-10-31	Nauer, Bernhard et al.	
	10	20040132427		2004-07-08	Lee, Wan-Yeon et al.	
	11	20060068796		2006-03-30	Millen, Stephanie L. et al.	
	12	20010048738		2001-12-06	Baniak, Paul G. et al.	
	13	20070033197		2007-02-08	Scherzer, Shimon et al.	
	14	20110013569		2011-01-20	Scherzer, Shimon et al.	
	15	20110159818		2011-06-30	Scherzer, Shimon et al.	
	16	20120020296		2012-01-26	Scherzer, Shimon et al.	
	17	20120196644		2012-08-02	Scherzer, Shimon et al.	
	18	20120238287		2012-09-20	Scherzer, Shimon	

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	19	20130058274		2013-03-07	Scherzer, Shimon et al.	
	20	20130084835		2013-04-04	Scherzer, Shimon et al.	
	21	20090005000		2009-01-01	Baker, Matthew et al.	
	22	20090006116		2009-01-01	Baker, Matthew et al.	
	23	20090006200		2009-01-01	Baker, Matthew et al.	
	24	20110081881		2011-04-07	Baker, Matthew Donald et al.	
	25	20110082790		2011-04-07	Baker, Matthew Donald et al.	
	26	20130029653		2013-01-31	Baker, Matthew Donald et al.	
	27	20130065555		2013-03-14	Baker, Matthew Donald et al.	
	28	20120155296		2012-06-21	Kashanian, Nematolah	
	29	20120330792		2012-12-27	Kashanian, Nematolah	

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	30	20130030960		2013-01-31	Kashanian, Nematolah	
	31	20130095787		2013-04-18	Kashanian, Nematolah	
	32	20130117140		2013-05-09	Kashanian, Nematolah	
	33	20060135144		2006-06-22	Jothipragasam, Premkumar	
	34	20080089295		2008-04-17	Keeler, James D. et al.	
	35	20080022354		2008-01-24	Grewal, Karanvir et al.	
	36	20040102182		2004-05-27	Reith, Lothar et al.	
	37	20030233332		2003-12-18	Keeler, James D. et al.	
	38	20080250053		2008-10-09	Aaltonen, Janne et al.	

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FOREIGN PATENT DOCUMENTS

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	1	2005008995	WO		2005-01-27	Starhub Ltd.		☐
	2	1998058505	WO		1998-12-23	Sonera Oy		☐
	3	2007097786	WO		2007-08-30	Sony Ericsson Mobile Communications AB		☐

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NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	ANTON, B. et al., "Best Current Practices for Wireless Internet Service Provider (WISP) Roaming"; Release Date February 2003, Version 1.0; Wi-Fi Alliance – Wireless ISP Roaming (WISPr)	☐
	2	Ruckus Wireless – White Paper; "Smarter Wi-Fi for Mobile Operator Infrastructures" 2010	☐
	3	Accuris Networks, "The Business Value of Mobile Data Offload – a White Paper", 2010	☐
	4	Wireless Broadband Alliance, "WISPr 2.0, 08 April, 2010"; Doc. Ref. No.: WBA/RM/WISPr, Version 01.00	☐
	5	THURSTON, Richard, "WISPr 2.0 Boosts Roaming Between 3G and Wi-Fi"; June 23, 2010; Web page from zdnet.com; Zdnet.com/wispr-2-0-boosts-roaming-between-3g-and-wi-fi-3040089325/	☐

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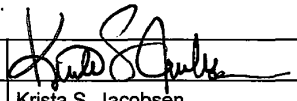
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Name/Print	Krista S. Jacobsen	Registration Number	59374

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	1	7633438		2009-12-15	Tysowski, Piotr Konrad	
	2	7593417		2009-09-22	Wang, James et al.	
	3	7551922		2009-06-23	Roskowski, Steve et al.	
	4	7545782		2009-06-09	Rayment, Stephen G. et al.	
	5	7039037		2006-05-02	Wang, Jiwei R. et al.	
	6	6928280		2005-08-09	Xanthos, James et al.	
	7	6765925		2004-07-20	Sawyer, Wilson et al.	
	8	5889477		1999-03-30	Fastenrath, Ulrich	

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	Attorney Docket Number	RALEP043

	9	8019820		2011-09-13	Son, Giyeong et al.	
	10	8155155		2012-04-10	Chow, Albert T. et al.	
	11	8191116		2012-05-29	Gazzard, Daryl	
	12	6292828		2001-09-18	Williams, David L.	
	13	7043226		2006-05-09	Yamauchi, Toshiaki	
	14	7472189		2008-12-30	Mallya, Arvind R. et al.	
	15	7944948		2011-05-17	Chow, Albert T. et al.	
	16	7802724		2010-09-28	Nohr, Steven Paul	
	17	8005009		2011-08-23	McKee, Neil et al.	
	18	7760861		2010-07-20	Croak, Marian et al.	
	19	8060463		2011-11-15	Spiegel, Joel R.	

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	Examiner Name	Rudy, Andrew J.
	Attorney Docket Number	RALEP043

	20	8224773		2012-07-17	Spiegel, Joel R.	
	21	8352980		2013-01-08	Howcroft, Jerald Robert	
	22	8386386		2013-02-26	Zhu, Kevin	
	23	8340718		2012-12-25	Colonna, Massimo et al.	
	24	8385896		2013-02-26	Proctor, Jr., James A. et al.	
	25	8320949		2012-11-27	Matta, Sudheer Poorna Chandra	
	26	8279864		2012-10-02	Wood, Daniel M.	
	27	8271045		2012-09-18	Parolkar, Satish et al.	
	28	8233883		2012-07-31	De Froment, Eric	
	29	8224382		2012-07-17	Bultman, Michael J.	
	30	8184590		2012-05-22	Rosenblatt, Ariel	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13248025
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	Art Unit	3687
	Examiner Name	Rudy, Andrew J.
	Attorney Docket Number	RALEP043

	31	8174970		2012-05-08	Adamczyk, Maria et al.	
	32	8165576		2012-04-24	Raju, Vishwanath et al.	
	33	8073721		2011-12-06	Lewis, Lundy	
	34	8032899		2011-10-04	Archer, Charles J. et al.	
	35	7974624		2011-07-05	Gallagher, Michael D. et al.	
	36	7907970		2011-03-15	Park, Vincent D. et al.	
	37	7778176		2010-08-17	Morford, Michael Robert|	
	38	7725570		2010-05-25	Lewis, Lundy	
	39	7634388		2009-12-15	Archer, Charles J. et al.	
	40	8447324		2013-05-21	Shuman, Mohammed Ataur et al.	
	41	8347362		2013-01-01	Cai, Yigang et al.	

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	42	8332517		2012-12-11	Russell, Jesse E.	
	43	8315718		2012-11-20	Caffrey, Paul Oliver et al.	

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U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20030171112		2003-09-11	Lupper, Alfred et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

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	1	2007124279	WO		2007-11-01	Cisco Technology, Inc.		☐

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NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
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Examiner Signature		Date Considered	

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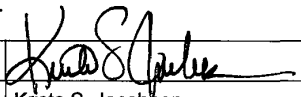
☐ See attached certification statement.

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☐ None

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Signature		Date (YYYY-MM-DD)	2013-06-27
Name/Print	Krista S. Jacobsen	Registration Number	59374

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	1	6754470		2004-06-22	Hendrickson, Keith et al.	
	2	8122128		2012-02-21	Burke, II, Robert M. et al.	
	3	8149823		2012-04-03	Turcan, Diane Brown et al.	
	4	8131256		2012-03-06	Martti, Jyrki et al.	
	5	6381316		2002-04-30	Joyce, Simon James et al.	
	6	7965983		2011-06-21	Swan, Tim et al.	
	7	8284740		2012-10-09	O'Connor, Dennis M.	
	8	8116223		2012-02-14	Tian, Dan et al.	

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	Attorney Docket Number	RALEP043

	9	8326359		2012-12-04	Kauffman, Donald C.	
	10	8331293		2012-12-11	Sood, Kapil	
	11	7457265		2008-11-25	Julka, Vibhor et al.	
	12	7729326		2010-06-01	Sekhar, Ramesh	
	13	6035281		2000-03-07	Crosskey, James P. et al.	
	14	6996393		2006-02-07	Pyhalammi, Seppo et al.	
	15	7760711		2010-07-20	Kung, Fen-Chung et al.	
	16	8000318		2011-08-16	Wiley, William L. et al.	
	17	8098579		2012-01-17	Ray, Amar N. et al.	
	18	8155670		2012-04-10	Fullam, Scott et al.	
	19	8374090		2013-02-12	Morrill, Robert J. et al.	

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	Examiner Name	Rudy, Andrew J.
	Attorney Docket Number	RALEP043

	20	7929973		2011-04-19	Zavalkovsky, Arthur et al.	
	21	7945945		2011-05-17	Graham, Richard et al.	
	22	8059530		2011-11-15	Cole, Terry L.	
	23	8266681		2012-09-11	Deshpande, Sumit B. et al.	
	24	8280354		2012-10-02	Smith, Christopher et al.	

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U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20110173678		2011-07-14	Kaippallimalil, John et al.	
	2	20080235511		2008-09-25	O'Brien, William G. et al.	
	3	20080240373		2008-10-02	Wilhelm, Robert D.	
	4	20100027559		2010-02-04	LIN, Hung-Ming et al.	

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	Examiner Name	Rudy, Andrew J.
	Attorney Docket Number	RALEP043

	5	20020116338		2002-08-22	Gonthier, Jean-Charles et al.	
	6	20070061878		2007-03-15	Hagiu, Costin et al.	
	7	20100020822		2010-01-28	Zerillo, Anthony J. et al.	
	8	20040203755		2004-10-14	Brunet, Jeffrey et al.	
	9	20090172077		2009-07-02	Roxburgh, David et al.	
	10	20080051076		2008-02-28	O'Shaughnessy, John et al.	
	11	20080313730		2008-12-18	Iftimie, Sorin et al.	
	12	20080120668		2008-05-22	Yau, Frank Chuen-Foo	

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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2006120558A1	WO		2006-11-16	Nokia Corp.		☐

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	Examiner Name	Rudy, Andrew J.
	Attorney Docket Number	RALEP043

	2	1889777A	CN		2006-07-19	Huawei Tech. Co. Ltd.		☐
	3	101155343A	CN		2006-09-29	Huawei Tech. Co. Ltd.		☐
	4	101035308A	CN		2006-03-09	Huawei Tech. Co. Ltd.		☐

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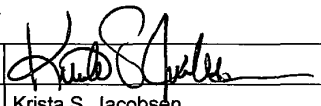
☐ See attached certification statement.

☒ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

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Signature		Date (YYYY-MM-DD)	2013-06-03
Name/Print	Krista S. Jacobsen	Registration Number	59374

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Raleigh et al.	Examiner:	RUDY, Andrew J.
Serial No.:	13/248,025	Art Unit:	3687
Filed:	September 28, 2011	Conf. No.:	7281
Title:	Service Design Center for Device Assisted Services		

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST TO CORRECT INVENTORHIP IN NONPROVISIONAL APPLICATION UNDER 37 CFR 1.48

Madam:

Applicant requests correction of inventorship in the above-referenced nonprovisional application in view of the following submitted herewith:

- an application data sheet in accordance with 37 CFR 1.76 that identifies each inventor by legal name;
- a declaration as required by 37 CFR 1.63 from each added inventor; and
- the processing fee set forth in 37 CFR 1.17(i).

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000094

The Commissioner is authorized to charge any fee deficiency or credit any overpayment to Deposit Account 50-5876.

Respectfully submitted,

Date: June 3, 2013 By: _____

Krista S. Jacobsen
Reg. No. 59,374
Head Counsel
Headwater Partners I LLC
350 Marine Parkway, Suite 300
Redwood Shores, CA 94065
(650) 517-2798

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	1	6754470		2004-06-22	Hendrickson, Keith et al.	
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	3	8149823		2012-04-03	Turcan, Diane Brown et al.	
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	9	8326359		2012-12-04	Kauffman, Donald C.	
	10	6035281		2000-03-07	Crosskey, James P. et al.	
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	12	7760711		2010-07-20	Kung, Fen-Chung et al.	
	13	8000318		2011-08-16	Wiley, William L. et al.	
	14	8098579		2012-01-17	Ray, Amar N. et al.	
	15	8155670		2012-04-10	Fullam, Scott et al.	
	16	8374090		2013-02-12	Morrill, Robert J. et al.	

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	2	20080235511		2008-09-25	O'Brien, William G. et al.	
	3	20080240373		2008-10-02	Wilhelm, Robert D.	
	4	20100027559		2010-02-04	LIN, Hung-Ming et al.	
	5	20020116338		2002-08-22	Gonthier, Jean-Charles et al.	
	6	20070061878		2007-03-15	Hagiu, Costin et al.	
	7	20100020822		2010-01-28	Zerillo, Anthony J. et al.	
	8	20040203755		2004-10-14	Brunet, Jeffrey et al.	
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	1	2006120558A1	WO		2006-11-16	Nokia Corp.		☐

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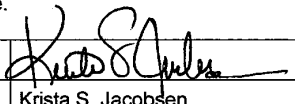
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Signature		Date (YYYY-MM-DD)	2013-05-23
Name/Print	Krista S. Jacobsen	Registration Number	59374

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

107265 7590 05/16/2013
Headwater Partners I LLC - Outside Firm 1
350 Marine Parkway, Suite 300
Redwood Shores, CA 94065

EXAMINER
RUDY, ANDREW J

ART UNIT	PAPER NUMBER
3687	

DATE MAILED: 05/16/2013

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/248,025	09/28/2011	Gregory G. Raleigh	RALEP043 [26WV-160520]	7281

TITLE OF INVENTION: SERVICE DESIGN CENTER FOR DEVICE ASSISTED SERVICES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$890	$300	$0	$1190	08/16/2013

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 DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). 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. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

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.

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000101

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)

107265 7590 05/16/2013
Headwater Partners I LLC - Outside Firm 1
350 Marine Parkway, Suite 300
Redwood Shores, CA 94065

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.
13/248,025	09/28/2011	Gregory G. Raleigh	RALEP043 [26WV-160520]	7281

TITLE OF INVENTION: SERVICE DESIGN CENTER FOR DEVICE ASSISTED SERVICES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$890	$300	$0	$1190	08/16/2013

EXAMINER	ART UNIT	CLASS-SUBCLASS
RUDY, ANDREW J	3687	705-026000

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 submitted:

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

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

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

PTOL-85 (Rev. 02/11)

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000102

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

❑ Applicant certifying micro entity status. See 37 CFR 1.29

NOTE: Absent a valid certification of Micro Entity Status (see form PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

❑ Applicant asserting small entity status. See 37 CFR 1.27

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

❑ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

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.

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IPR2024-01041 / IPR2024-01042
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Page 000103

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/248,025	09/28/2011	Gregory G. Raleigh	RALEP043 [26WV-160520]	7281

107265 7590 05/16/2013

Headwater Partners I LLC - Outside Firm 1
350 Marine Parkway, Suite 300
Redwood Shores, CA 94065

EXAMINER	
RUDY, ANDREW J	

ART UNIT	PAPER NUMBER
3687	

DATE MAILED: 05/16/2013

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 0 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 0 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. 02/11)

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 13/248,025	Applicant(s) RALEIGH ET AL.	
	Examiner ANDREW JOSEPH RUDY	Art Unit 3687	AIA (First Inventor to File) Status No

-- 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 *the19 February 2013 Amendment* .
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *1-7 and 11-124*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov .
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   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: _____.

   Interim copies:

   a) ☐ All b) ☐ Some c) ☐ None of the: Interim copies of the priority documents have been 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.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ 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. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☒ Examiner's Amendment/Comment
6. ☒ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000106

DETAILED ACTION

1. Further pertinent references of interest are noted on the attached PTO-892.

2. Applicant's six Information Disclosure Statements (IDS's) submitted have been reviewed. Note the attached IDS's.

Allowable Subject Matter

3. Pursuant to Applicant's February 19, 2013 Amendment and REMARKS, claims 1-7 and 11-124 are allowed. It is noted Applicant cancelled claims 8-10.

4. The following is an examiner's statement of reasons for allowance: The prior art of record, either alone or in combination, does not disclose, or suggest, Applicant's claim language.

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."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW JOSEPH RUDY whose telephone number is (571)272-6789. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Gart can be reached on 571-272-3955. 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). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ANDREW JOSEPH RUDY/

Primary Examiner, Art Unit 3687

Notice of References Cited	Application/Control No. 13/248,025	Applicant(s)/Patent Under Reexamination RALEIGH ET AL.	
	Examiner ANDREW JOSEPH RUDY	Art Unit 3687	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,154,738	11-2000	Call, Charles Gainor	705/20
*	B	US-8,306,518	11-2012	Gailloux et al.	455/418
*	C	US-8422988	04-2013	Keshav	455/405
*	D	US-8423016	04-2013	Buckley et al.	455/432.1
	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.

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000109

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	13248025
Filing Date	2011-09-28
First Named Inventor	Raleigh, Gregory G.
Art Unit	3687
Examiner Name	Rudy, Andrew J.
Attorney Docket Number	RALEP043

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	8291238		2012-10-16	Ginter, Karl L. et al.	
	2	8068824		2011-11-29	Shan, Xueshan et al.	
	3	7228354		2007-06-05	Chambliss, David Darden et al.	
	4	5283904		1994-02-01	Carson, David G. et al.	
	5	8208919		2012-06-26	Kotecha, Lalit Ratilal	
	6	8185152		2012-05-22	Goldner, Alla	
	7	7844728		2010-11-30	Anderson, Thomas W. et al.	
	8	7873344		2011-01-18	Bowser, Robert et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.R./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13248025
	Filing Date	2011-09-28
	First Named Inventor	Raleigh, Gregory G.
	Art Unit	3687
	Examiner Name	Rudy, Andrew J.
	Attorney Docket Number	RALEP043

	9	7856226		2010-12-21	Wong, Ellis L. et al.	
	10	7948952		2011-05-24	Hurtta, Tuija et al.	
	11	7957020		2011-06-07	Mine, Ryuta et al.	
	12	7346410		2008-03-18	Uchiyama, Kenji	
	13	7167078		2007-01-23	Pourchot, Shawn C.	
	14	8102814		2012-01-24	Rahman, Shahriar I. et al.	
	15	7970350		2011-06-28	Sheynman, Arnold et al.	
	16	8094551		2012-01-10	Huber, Kurt Donald et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20090307746		2009-12-10	DI, Jinwen et al.	

EFS Web 2.1.17

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.R./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13248025
	Filing Date	2011-09-28
	First Named Inventor	Raleigh, Gregory G.
	Art Unit	3687
	Examiner Name	Rudy, Andrew J.
	Attorney Docket Number	RALEP043

	2	20050009499		2005-01-13	Koster, Karl	
	3	20100041364		2010-02-18	Lott, Robert Wayne et al.	
	4	20100027469		2010-02-04	Gurajala, Ravindra Babu et al.	
	5	20010053694		2001-12-20	Igarashi, Yoichiro et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1		☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/Andrew Joseph Rudy/	Date Considered	05/07/2013

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

EFS Web 2.1.17

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.R./

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Raleigh et al.	Examiner:	RUDY, Andrew J.
Serial No.:	13/248,025	Art Unit:	3687
Filed:	September 28, 2011	Conf. No.:	7281
Title:	Service Design Center for Device Assisted Service		

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

AMENDMENT AND RESPONSE TO RESTRICTION REQUIREMENT

Madam:

In response to the restriction requirement dated December 17, 2012, the deadline for response ending on February 19, 2013, with the enclosed request for a one-month extension of time, Applicants respond as follows.

Amendments to the Specification begin on page 2.

Amendments to the Claims begin on page 4.

Remarks begin on page 26.

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000113

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph **[0010]** with the following paragraph:

[0010] FIGS. 3**A through 3AB** depict screenshots of a specific implementation of a service design system.

Please replace paragraph **[0019]** with the following paragraph:

[0019] FIG. 1 depicts an**[[d]]** example of a system 100 including an access network 102 and a network service plan provisioning system 104. In the example of FIG. 1, the access network 102 receives network element provisioning instructions to enforce plan policies from the network service plan provisioning system 104. In a specific implementation, the network service plan provisioning system 104 can receive service plan selection data from the access network, and provide new instructions based upon the selection.

Please replace paragraph **[0042]** with the following paragraph:

[0042] The rules datastore 218 includes policy rules. For illustrative purposes, three policy type data structures are depicted as directed toward the rules datastore 218**:[[,]]** traffic control policy data structure 220, charging policy data structure 222, and notification policy data structure 224. The traffic control policy data structure 220 can include a variety of filter packages designed to control the flow of traffic, such as allow or block, and take certain actions in association with the traffic control, such as cap-and-match. The charging policy data structure 222 can be directed to a user or a sponsor (who can subsidize network service usage) and can include a charging code.

Please replace paragraph **[0054]** with the following paragraph:

[0054] Selecting the plans button of the menu buttons field 306 and selecting a new plan brings a designer to screenshot 300I (FIG. 3I). In this specific implementation, the plan information includes a plan icon, a plan name, a plan short description, a plan description, a plan version, a plan type (e.g., sponsored, paid, or carrier), an "is default" checkbox, an "is repurchaseable" checkbox, a billing price, and a display price (in case the billing price is not the

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same as the billing price). A next screenshot 300J (FIG. 3J) ~~includes~~ enables entry of further information about the plan, including charging policy (e.g., based on data used or time spent, usage limits and overage allowances), billing policy (e.g., one-time or recurring, usage reporting, and pre- or post-billing). It is possible in this specific implementation to show a policy label on the device and include billing identifiers. A charging code can also be created or selected by the designer. A next screenshot 300K (FIG. 3K) includes an option to add components, either by creating a new component or cloning an existing component. In the example of FIG. 3K, three components have been added to the list of components for the plan, with explicit priorities 1, 2, and 3. Note that in this specific implementation, the number of tabs in the tab menu 310 increases as data is entered for the plan until the tab menu 310 includes a properties tab, a charging & billing tab, a components tab, a policy events tab, and a review tab.

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AMENDMENTS TO THE CLAIMS

Prior to examination, please amend the claims as provided by the following listing of claims, which will replace all prior versions and listings of claims in the application:

1. (Currently amended) A network service plan provisioning system **communicatively coupled to a wireless end-user device over a wireless access network, the network service plan provisioning system comprising one or more network elements** configured to:

~~receive~~ **obtain** and store ~~multiple~~ **a first** service plan component**[[s]] and a second service plan component,** ~~comprising:~~

~~a first service plan component,~~ the first service plan component comprising~~:~~

~~a first traffic classification filter set comprising~~ **(1) information specifying** a first traffic classification filter for filtering a traffic event in a network traffic inspection system**, the traffic event being associated with the wireless end-user device and (2)**~~;~~

~~a first policy enforcement action set comprising~~ a first network policy enforcement action that is triggered in a network policy enforcement system when the traffic event possesses **a** characteristic**[[s]]** that match**es** the first **traffic** classification **filter, and** ~~identifier;~~

~~a second service plan component,~~ the second service plan component comprising **(a) information specifying**~~:~~

~~a second traffic classification filter set comprising~~ a second traffic classification filter for filtering the traffic event in the network traffic inspection system**, and (b)**~~;~~

~~a second policy enforcement action set comprising~~ a second network policy enforcement action that is triggered in the network policy enforcement system when the traffic event possesses **a** characteristic**[[s]]** that match**es** the second **traffic** classification **filter** ~~identifier~~;

~~determine a superposition of the first traffic classification filter over the second traffic classification filter;~~

process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with ~~the determination of the~~ **a prioritization** ~~superposition~~ of the first traffic classification filter over the second traffic

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classification filter, the network provisioning instruction set comprising ~~a set of~~ **one or more** traffic inspection provisioning instructions for **the [[a]]** network traffic inspection system and ~~a set of~~ **one or more** policy enforcement provisioning instructions for **the [[a]]** network policy enforcement system**, the network traffic inspection system and the network policy enforcement system implementing one or more policies applicable to the wireless end-user device**;

provide the ~~set of~~ **one or more** traffic inspection provisioning instructions to the network traffic inspection system; **and**

provide the ~~set of~~ **one or more** policy enforcement provisioning instructions to the network policy enforcement system.

2. (Currently amended) The network service plan provisioning system of claim 1**,** wherein **process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter comprises** ~~the network service plan provisioning system is configured to~~ order traffic inspection comparison operations in the ~~set of~~ **one or more** traffic inspection provisioning instructions such that the ~~first service plan component has a higher policy enforcement priority than the second service plan component, wherein the~~ **one or more traffic inspection provisioning instructions direct the network traffic inspection system to determine whether the traffic event possesses the characteristic that matches the** first traffic classification filter ~~is evaluated~~ before **determining whether the traffic event possesses the characteristic that matches** the second traffic classification filter ~~in the network traffic inspection system~~.

3. (Currently amended) The network service plan provisioning system of claim 2**,** wherein **process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter further comprises** ~~the network service plan provisioning system is configured to~~ include in the network provisioning instruction set ~~a specification that~~ **one or more instructions directing the network traffic inspection system to determine whether the traffic event possesses the characteristic that**

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matches the second traffic classification filter only if ~~**once**~~ the traffic event **does not possess the characteristic that matches the first traffic classification filter** ~~**triggers the first network policy enforcement action, no further traffic comparison inspections are to be performed for the traffic event**~~.

4. (Currently amended) The network service plan provisioning system of claim 2**,** wherein **process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter further comprises** ~~**the network service plan provisioning system is configured to**~~ include in the network provisioning instruction set ~~**a specification that**~~ **one or more instructions directing the network traffic inspection system to determine whether the traffic event also possesses the characteristic that matches the second traffic classification filter** ~~**once**~~ **if** the traffic event **possesses the characteristic that matches the first traffic classification filter** ~~**triggers the first network policy enforcement action, further traffic comparison inspections are to be performed to determine that the traffic event also matches the second traffic classification filter and triggers the second network policy enforcement action**~~.

5. (Currently amended) The network service plan provisioning system of claim 1, ~~**wherein the network provisioning instruction set includes a service usage activity that satisfies the first service plan component and the second service plan component,**~~ further comprising:

a policy enforcement priority rule datastore including a policy enforcement priority rule for **determining whether the traffic event possesses the characteristic that matches** ~~**enforcing the service usage activity with**~~ the first traffic classification filter ~~**and the first network policy enforcement action rather than**~~ **before determining whether the traffic event possesses the characteristic that matches** the second traffic classification filter**,** ~~**and the second network policy enforcement action;**~~

and wherein **process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification**

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filter comprises ~~**the network service plan provisioning system is configured to**~~ include the policy enforcement priority rule in the network provisioning instruction set.

6. (Currently amended) The network service plan provisioning system of claim 5**,** wherein the policy enforcement priority rule comprises a priority order for **a plurality of** traffic classification filters, **the plurality of traffic classification filters** including the first traffic classification filter and the second traffic classification filter~~**, for filtering the traffic event in the network traffic inspection system**~~.

7. (Currently amended) The network service plan provisioning system of claim 5**,** wherein the policy enforcement priority rule comprises a priority specification for ~~**at least**~~ one **or both** of the first service plan component and the second service plan component.

8-10. (Canceled)

11. (Currently amended) The network service plan provisioning system of claim 5**,** wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to provide a user interface for a service plan design environment that provides for entering the policy enforcement priority rule in the design environment by ~~**one or more of:**~~ entering a priority assignment **for the first** ~~**to a**~~ service plan component, **entering a priority assignment for the second service plan component,** positioning **the first and second** service plan components in a ~~**graphical**~~ **priority** ordering ~~**of priority**~~, ~~**or**~~ defining **the first or second [[a]]** service plan component as belonging to a service type that has an implied or literal ordering**, or a combination of these**.

12. (Currently amended) The network service plan provisioning system of claim 1**,** wherein the **information specifying** ~~**network service plan provisioning system is configured to include in**~~ the first traffic classification filter **comprises** an inspection criteri**on[[a]]** selected from a group of inspection criteria consisting of**:** a specific device application, a specific network destination, a specific network source, a specific traffic **type, a specific [[or]]** content type, a specific traffic protocol, and a combination of two or more of the inspection criteria.

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13. (Currently amended) The network service plan provisioning system of claim 1**,** wherein the **first or second** ~~**network service plan provisioning system is configured to include in the**~~ policy enforcement action ~~**set**~~ **is** an action selected from a group of actions consisting of**: apply** a traffic control policy; **apply** a service usage accounting, charging**,** or billing policy**[[,]]; apply** a service notification policy**[[,]];** and a combination of two or more of the actions.

14. (Currently amended) The network service plan provisioning system of claim 1, wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to include in the network provisioning instruction set **an instruction to assist in enforcing** a sponsored charging policy.

15. (Currently amended) The network service plan provisioning system of claim 1, wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to include in the network provisioning instruction set **an instruction to assist in enforcing** a classification-based charging policy, wherein the classification is **selected** from the group of classification categories consisting of**:** application, destination, network, time of day, congestion state, quality of service, content type, and a combination **of two or more of the classification categories**.

16. (Currently amended) The network service plan provisioning system of claim 1, wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to include in the network provisioning instruction set **an instruction to assist in presenting a** service buy page notification**[[s]]** with **an** actionable response**[[s]]**.

17. (Currently amended) The network service plan provisioning system of claim 1, wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to include in the network provisioning instruction set **an instruction to assist in generating a** usage notification**[[s]]** in response to **a** device **state** or **a** network state.

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18. (Currently amended) The network service plan provisioning system of claim 1, wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to include in the network provisioning instruction set **an instruction to assist in generating a** marketing intercept offer notification**[[s]]** specific to **a** device or **a** network state.

19. (Currently amended) The network service plan provisioning system of claim 1, wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to include in the network provisioning instruction set **an instruction to assist in generating a** roaming notification**[[s]]** specific to **a** device or **a** network state.

20. (Currently amended) The network service plan provisioning system of claim 1, wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to provide a user interface for a service plan design environment that provides for a hierarchical definition and display of **one or more of:** the **first** ~~**multiple**~~ service plan component**[[s]]**, **the second service plan component,** the first traffic classification filter ~~**set**~~, the second traffic classification filter ~~**set**~~, the first policy enforcement action ~~**set**~~, ~~**and**~~ **or** the second policy enforcement action ~~**set**~~.

21. (Currently amended) The network service plan provisioning system of claim 1, wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to facilitate reuse of the **first** ~~**multiple**~~ service plan component**[[s]]**, **the second service plan component,** the first traffic classification filter ~~**set**~~, the second traffic classification filter ~~**set**~~, the first policy enforcement action ~~**set**~~, **[[and]] or** the second policy enforcement action ~~**set**~~ in **a plurality of** ~~**multiple**~~ service plans by storing the **first** ~~**multiple**~~ service plan component**[[s]]**, **the second service plan component,** the first traffic classification filter ~~**set**~~, the second traffic classification filter ~~**set**~~, the first policy enforcement action ~~**set**~~, and the second policy enforcement action ~~**set**~~ as **one or more** objects in a catalog.

22. (Currently amended) The network service plan provisioning system of claim 1**,** wherein the first **service plan component further comprises** ~~**policy enforcement action set includes**~~ an additional policy enforcement action ~~**set applied at the service plan level that**~~ **to** augment**[[s]]**

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the first policy enforcement action**, and wherein the second service plan component further comprises the additional policy enforcement action to augment** ~~**set and**~~ the second policy enforcement action ~~**set**~~.

23. (Currently amended) The network service plan provisioning system of claim 1**,** wherein the first **service plan component further comprises** ~~**policy enforcement action set includes**~~ an additional policy enforcement action ~~**set applied at the service plan level that**~~ **to** over-ride**[[s]]** the first policy enforcement action**, and wherein the second service plan component further comprises the additional policy enforcement action to over-ride** ~~**set and**~~ the second policy enforcement action ~~**set**~~.

24. (Currently amended) The network service plan provisioning system of claim 1, wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to facilitate grouping of the **first and second** ~~**multiple**~~ service plan components and provide for grouping of the **first and second** ~~**multiple**~~ service plan components into a larger service plan object definition.

25. (Currently amended) The network service plan provisioning system of claim 1, wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to facilitate grouping of the **first and second** ~~**multiple**~~ service plan components and provide for an additional policy enforcement action ~~**set**~~ applied at a service plan group level that augments the first policy enforcement action ~~**set**~~ and the second policy enforcement action ~~**set**~~.

26. (Currently amended) The network service plan provisioning system of claim 1, wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to facilitate grouping of the **first and second** ~~**multiple**~~ service plan components and provide for an additional policy enforcement action ~~**set**~~ applied at a service plan group level that over-rides the first policy enforcement action ~~**set**~~ and the second policy enforcement action ~~**set**~~.

27. (Currently amended) The network service plan provisioning system of claim 1, wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~

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configured to facilitate grouping of the **first and second** ~~**multiple**~~ service plan components and provide one or more service plan component group policy enforcement priority rules comprising a specification for how to resolve one or more policy enforcement ambiguities ~~**that occur**~~ at **a** ~~**the**~~ service plan component group level.

28. (Currently amended) The network service plan provisioning system of claim 1**,** wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to **obtain** ~~**receive**~~ service plan parameters for multiple service plans, combine **one or more** service policies for the multiple service plans into one composite-plan policy set, and provision the network policy enforcement system to ~~**properly**~~ enforce the composite policies for the multiple service plans.

29. (Currently amended) The network service plan provisioning system of claim 28**,** wherein the **one or more network elements are further** ~~**network service plan provisioning system is**~~ configured to provide a composite-plan policy enforcement priority rule comprising a specification for how to resolve **one or more** ~~**a potential**~~ policy enforcement ambiguit**ies[[y]]** between traffic classification or policy enforcement instructions for two or more composite-plans.

30. (New) The network service plan provisioning system of claim 1, wherein the first service plan component is associated with a first priority, and wherein the second service plan component is associated with a second priority, the second priority being lower than the first priority, and wherein process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter comprises include in the network provisioning instruction set one or more first instructions directing the network traffic inspection system to determine whether the traffic event possesses the characteristic that matches the first traffic classification filter and to determine whether the traffic event possesses the characteristic that matches the second traffic classification filter, and one or more second instructions directing the network policy enforcement system to enforce the first network policy enforcement action when the traffic event possesses both the characteristic that matches the first

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traffic classification filter and the characteristic that matches the second traffic classification filter.

31. (New) The network service plan provisioning system of claim 1, wherein the first service plan component is associated with a first priority, and wherein the second service plan component is associated with a second priority, the second priority being lower than the first priority, and wherein process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter comprises include in the network provisioning instruction set one or more first instructions directing the network traffic inspection system to determine whether the traffic event possesses the characteristic that matches the first traffic classification filter, and one or more second instructions directing the network policy enforcement system to enforce only the first network policy enforcement action when the traffic event possesses the characteristic that matches the first traffic classification filter.

32. (New) The network service plan provisioning system of claim 1, wherein the first service plan component is associated with a first priority, and wherein the second service plan component is associated with a second priority, the second priority being lower than the first priority, and wherein process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter comprises include in the network provisioning instruction set one or more first instructions directing the network traffic inspection system to determine whether the traffic event possesses the characteristic that matches the first traffic classification filter and to determine whether the traffic event possesses the characteristic that matches the second traffic classification filter, and one or more second instructions directing the network policy enforcement system to enforce the first network policy enforcement action and the second network policy enforcement action when the traffic event possesses both the characteristic that matches the first traffic classification filter and the characteristic that matches the second traffic classification filter.

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33. (New) The network service plan provisioning system of claim 1, wherein process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter comprises order one or more first instructions associated with the first traffic classification filter and one or more second instructions associated with the second traffic classification filter so that the first traffic classification filter is applied to the traffic event before the second traffic classification filter is applied to the traffic event.

34. (New) The network service plan provisioning system of claim 1, wherein process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter comprises include one or more instructions directing the network traffic inspection system to trap a match of the first traffic classification filter in a kernel until the second traffic classification filter is matched.

35. (New) The network service plan provisioning system of claim 1, wherein process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter comprises apply an explicit priority rule.

36. (New) The network service plan provisioning system of claim 1, wherein process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter comprises configure the one or more traffic inspection provisioning instructions so that the network traffic inspection system determines whether the traffic event possesses the characteristic that matches the first traffic classification filter before determining whether the traffic event possesses the characteristic that matches the second traffic classification filter.

37. (New) The network service plan provisioning system of claim 1, wherein process the first service plan component and the second service plan component to create a network provisioning

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instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter comprises configure the one or more policy enforcement provisioning instructions so that the network policy enforcement system applies the first policy enforcement action before applying the second policy enforcement action.

38. (New) The network service plan provisioning system of claim 1, wherein process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter comprises configure the one or more traffic inspection provisioning instructions so that when the traffic event possesses the characteristic that matches the first traffic classification filter, the network policy enforcement system applies the first policy enforcement action, and the network traffic inspection system does not determine whether the traffic event possesses the characteristic that matches the second traffic classification filter.

39. (New) The network service plan provisioning system of claim 1, wherein process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter comprises configure the network provisioning instruction set so that when the traffic event possesses the characteristic that matches the first traffic classification filter and the characteristic that matches the second traffic classification filter, the first policy enforcement action has a higher priority than the second policy enforcement action.

40. (New) The network service plan provisioning system of claim 1, wherein process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter comprises configure the one or more traffic inspection provisioning instructions so that when the network traffic inspection system determines that the traffic event possesses the characteristic that matches the first traffic classification filter and the characteristic that matches the second traffic classification filter, the network policy enforcement system applies the first policy enforcement action but does not apply the second policy enforcement action.

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41. (New) The network service plan provisioning system of claim 1, wherein process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with a prioritization of the first traffic classification filter over the second traffic classification filter comprises configure the one or more traffic inspection provisioning instructions so that when the network traffic inspection system determines that the traffic event possesses the characteristic that matches the first traffic classification filter and the characteristic that matches the second traffic classification filter, the network policy enforcement system applies the first policy enforcement action before applying the second policy enforcement action.

42. (New) The network service plan provisioning system of claim 1, wherein the network policy enforcement system comprises a policy decision element.

43. (New) The network service plan provisioning system of claim 1, wherein the network policy enforcement system or the network traffic inspection system comprises a gateway.

44. (New) The network service plan provisioning system of claim 1, wherein at least a portion of the network policy enforcement system is on the wireless end-user device.

45. (New) The network service plan provisioning system of claim 1, wherein at least a portion of the network policy enforcement system is in a network system communicatively coupled to the wireless end-user device over the wireless access network.

46. (New) The network service plan provisioning system of claim 1, wherein the network traffic inspection system or the network policy enforcement system comprises a programmable element.

47. (New) The network service plan provisioning system of claim 1, wherein the network policy enforcement system or the network traffic inspection system comprises a modem or an agent on the wireless end-user device.

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48. (New) The network service plan provisioning system of claim 1, wherein the network policy enforcement system comprises a charging element, a billing element, or a mediation element.

49. (New) The network service plan provisioning system of claim 1, wherein the network policy enforcement system implements a charging function.

50. (New) The network service plan provisioning system of claim 1, wherein the one or more policies comprise a charging policy.

51. (New) The network service plan provisioning system of claim 50, wherein the charging policy is associated with a sponsor entity subsidizing a network service usage associated with the wireless end-user device.

52. (New) The network service plan provisioning system of claim 50, wherein the charging policy is inherited from a service plan associated with the first service plan component and the second service plan component.

53. (New) The network service plan provisioning system of claim 50, wherein the charging policy is based on an amount of usage, a time, an overage allowance, or a combination of these.

54. (New) The network service plan provisioning system of claim 50, wherein the charging policy is associated with a rate or a charging code.

55. (New) The network service plan provisioning system of claim 50, wherein the charging policy is associated with a cycle specified by a duration, a frequency, a usage amount, or a combination of these.

56. (New) The network service plan provisioning system of claim 50, wherein the charging policy assists in implementing a pre-paid billing or a post-paid billing.

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57. (New) The network service plan provisioning system of claim 1, wherein the network policy enforcement system comprises a notification element.

58. (New) The network service plan provisioning system of claim 1, wherein the network policy enforcement system implements a notification function.

59. (New) The network service plan provisioning system of claim 58, wherein the one or more network elements are further configured to:

obtain notification information, the notification information at least assisting to specify or identify a notification content, a notification trigger, or a notification offer; and

determine at least a portion of the policy enforcement provisioning instructions based on the notification information.

60. (New) The network service plan provisioning system of claim 1, wherein the one or more policies comprise a notification policy.

61. (New) The network service plan provisioning system of claim 60, wherein the one or more policy enforcement provisioning instructions assist in causing a notification to be delivered to a subscriber or to the wireless end-user device.

62. (New) The network service plan provisioning system of claim 61, wherein the notification comprises a selection option for providing feedback or instructions.

63. (New) The network service plan provisioning system of claim 61, wherein the notification indicates that a usage of a service plan has reached a particular percentage of a limit, or that a requested network activity has been capped because a policy limit has been reached.

64. (New) The network service plan provisioning system of claim 61, wherein the notification provides information about a service plan limit or an overage.

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65. (New) The network service plan provisioning system of claim 61, wherein the notification provides information about an offer.

66. (New) The network service plan provisioning system of claim 65, wherein the offer is an offer to allow an overage, an offer for a new service plan, or an offer to block an ongoing usage.

67. (New) The network service plan provisioning system of claim 61, wherein the notification provides information about a plan expiration.

68. (New) The network service plan provisioning system of claim 61, wherein the notification provides information about an activity of the wireless end-user device that has been blocked, or an activity of the wireless end-user device that is not allowed.

69. (New) The network service plan provisioning system of claim 61, wherein the notification provides a message or an offer based on a current activity or a status of the wireless end-user device.

70. (New) The network service plan provisioning system of claim 69, wherein the current activity or the status of the wireless end-user device is based on the traffic event.

71. (New) The network service plan provisioning system of claim 61, wherein the notification is an actionable notification enabling a user of the wireless end-user device to provide a response to the notification.

72. (New) The network service plan provisioning system of claim 71, wherein the response comprises a directive to dismiss the notification, a directive to cancel the notification, an acknowledgment of the notification, a request for information, or a request to make a purchase.

73. (New) The network service plan provisioning system of claim 61, wherein the one or more network elements are further configured to obtain, from a designer, information specifying the notification.

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74. (New) The network service plan provisioning system of claim 73, wherein the information specifying the notification specifies a title, a subtitle, text, an icon, a button, an action, whether to present the notification in a foreground, whether to present the notification in a background, or a combination of these.

75. (New) The network service plan provisioning system of claim 1, wherein the one or more policies comprise a notification policy, and wherein the one or more network elements are further configured to obtain information specifying the notification policy from a designer.

76. (New) The network service plan provisioning system of claim 75, wherein the information specifying the notification policy comprises a name, a description, a notification destination, an interaction associated with the notification, whether to present the notification in a foreground or in a background, a specification of selection options associated with the notification, or a combination of these.

77. (New) The network service plan provisioning system of claim 76, wherein the notification destination is a subscriber or a server.

78. (New) The network service plan provisioning system of claim 76, wherein the interaction associated with the notification comprises a number of times the notification is presented, an option enabling a user to suppress the notification, or a combination of these.

79. (New) The network service plan provisioning system of claim 75, wherein the one or more network elements are further configured to present, through a user interface of the network service plan provisioning system, a representation of the notification for presentation on the wireless end-user device.

80. (New) The network service plan provisioning system of claim 61, wherein the notification comprises an upsell offer.

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81. (New) The network service plan provisioning system of claim 80, wherein the upsell offer is based on a network state, a device state, or a subscriber state.

82. (New) The network service plan provisioning system of claim 81, wherein the network state is based on a congestion level of the wireless access network, a number of failed attempts to authenticate on the wireless access network, a time of day, a location, a type of network, a roaming status, or a combination of these.

83. (New) The network service plan provisioning system of claim 80, wherein the upsell offer is based on a current usage or an historical usage.

84. (New) The network service plan provisioning system of claim 80, wherein the upsell offer provides an offer for a service at no cost to the subscriber.

85. (New) The network service plan provisioning system of claim 61, wherein the notification comprises information about a purchase, a data usage, an application, an amount of data, a percentage, or a combination of these.

86. (New) The network service plan provisioning system of claim 61, wherein the notification comprises information to assist a subscriber in activating the wireless end-user device, selecting a service plan for the wireless end-user device, setting a preference, or a combination of these.

87. (New) The network service plan provisioning system of claim 1, wherein the one or more policies comprise a traffic control policy.

88. (New) The network service plan provisioning system of claim 87, wherein the control policy specifies to allow, block, throttle, delay, or defer the traffic event.

89. (New) The network service plan provisioning system of claim 87, wherein the traffic control policy is based on a network state, a device state, a service-plan-usage state, or a combination of these.

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90. (New) The network service plan provisioning system of claim 1, wherein the traffic event is associated with a particular destination, a particular application on the wireless end-user device, a content type, a protocol, a port, or an operating system of the wireless end-user device.

91. (New) The network service plan provisioning system of claim 1, wherein the traffic event is associated with a specified remote destination, a specified application, a specified operating system, a specified content, a specified protocol, or a specified port number.

92. (New) The network service plan provisioning system of claim 91, wherein the specified remote destination is identified by a domain or an Internet protocol (IP) address.

93. (New) The network service plan provisioning system of claim 91, wherein the specified application is identified by a name, a hash, a certificate, or a signature.

94. (New) The network service plan provisioning system of claim 1, wherein the first network policy enforcement action or the second network policy enforcement action comprises sending a notification to a notification destination.

95. (New) The network service plan provisioning system of claim 1, wherein the first network policy enforcement action or the second network policy enforcement action comprises trapping a match at a kernel level.

96. (New) The network service plan provisioning system of claim 1, wherein the first service plan component or the second service plan component comprises a carrier component, a network protection component, an application component, a sponsored component, a subscriber-paid component, a marketing interceptor component, a parental control component, a bulk component, a post-bulk component, or an end-of-life component.

97. (New) The network service plan provisioning system of claim 1, wherein the one or more network elements are further configured to obtain, through a user interface of the network

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service plan provisioning system, a hierarchical arrangement of the first service plan component and the second service plan component, the hierarchical arrangement specifying whether the first service plan component has a higher priority than the second service plan component.

98. (New) The network service plan provisioning system of claim 1, wherein the first service plan component or the second service plan component is associated with a service class.

99. (New) The network service plan provisioning system of claim 98, wherein the service class is paid, marketing intercept, carrier, network protection, sponsored, parental control, open access, bulk, post-bulk, or a combination of these.

100. (New) The network service plan provisioning system of claim 1, wherein the first service plan component is associated with a first service class, and the second service plan component is associated with a second service class, and wherein the one or more network elements are further configured to obtain, through a user interface of the network service plan provisioning system, a specification of whether the first service class has a higher priority than the second service class.

101. (New) The network service plan provisioning system of claim 1, wherein the one or more network elements are further configured to obtain, from a designer, information identifying the wireless end-user device.

102. (New) The network service plan provisioning system of claim 101, wherein the information identifying the wireless end-user device comprises an international mobile subscriber identity (IMSI), a phone number, a device type, an international mobile equipment identity (IMEI), a device name, a subscriber group, an owner name, a locale, an operating system version, subscriber information, or a combination of these.

103. (New) The network service plan provisioning system of claim 1, wherein the wireless end-user device is a first wireless end-user device, and wherein the one or more network elements are further configured to obtain, from a designer, information identifying a plurality of wireless end-

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user devices, the plurality of wireless end-user devices including the first wireless end-user device.

104. (New) The network service plan provisioning system of claim 103, wherein each wireless end-user device in the plurality of wireless end-user devices is a particular type of device, has a particular device characteristic, or is associated with a particular demographic characteristic.

105. (New) The network service plan provisioning system of claim 1, wherein the one or more network elements are configured to obtain the information specifying the first traffic classification filter or the information specifying the second traffic classification filter from a designer.

106. (New) The network service plan provisioning system of claim 1, wherein the one or more network elements are configured to obtain at least a portion of the first service plan component and at least a portion of the second service plan component from a designer.

107. (New) The network service plan provisioning system of claim 106, wherein the designer is associated with a role.

108. (New) The network service plan provisioning system of claim 107, wherein the role establishes one or more network service plan provisioning system capabilities available to the designer.

109. (New) The network service plan provisioning system of claim 106, wherein the designer is associated with a carrier, an enterprise, an application developer, or a mobile virtual network operator.

110. (New) The network service plan provisioning system of claim 1, wherein the first service plan component and the second service plan component are associated with a service plan, and wherein the one or more network elements are further configured to obtain, from a designer, information about the service plan.

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111. (New) The network service plan provisioning system of claim 110, wherein the information about the service plan comprises an icon, a name, a description, a version, a type, whether the service plan is a default plan, whether a user of the wireless end-user device is able to repurchase the service plan, a price, a charging policy, a billing policy, a charging code, or a combination of these.

112. (New) The network service plan provisioning system of claim 1, wherein the information specifying the first traffic classification filter or the information specifying the second traffic classification filter comprises a name, a description, a filtering parameter, a launch mechanism, or a combination of these.

113. (New) The network service plan provisioning system of claim 112, wherein the filter parameter specifies filtering the traffic event by destination, by application, by operating system, by protocol, or by port.

114. (New) The network service plan provisioning system of claim 1, wherein the one or more network elements are further configured to assist a designer in customizing a branding for presentation through a user interface of the wireless end-user device.

115. (New) The network service plan provisioning system of claim 1, wherein the one or more network elements are further configured to provide access to a service design sandbox.

116. (New) The network service plan provisioning system of claim 115, wherein the service design sandbox provides for policy definition for a subset of subscribers of the network service plan provisioning system.

117. (New) The network service plan provisioning system of claim 115, wherein the service design sandbox is available to an enterprise, a mobile virtual network operator (MVNO), or an application developer.

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118. (New) The network service plan provisioning system of claim 115, wherein the service design sandbox provides for definition of a subscriber group, a service plan, a notification, the first service plan component, the second service plan component, a service activity, a report, or a combination of these.

119. (New) The network service plan provisioning system of claim 115, wherein the one or more network elements are further configured to provide access to a service design sandbox through a secure login environment.

120. (New) The network service plan provisioning system of claim 1, wherein the one or more policies comprise a policy associated with a tethering function.

121. (New) The network service plan provisioning system of claim 1, wherein the one or more policies comprise a policy associated with a web page, a domain, an application, a roaming network, an e-mail service, a networking service, a music download service, a video game service, a multimedia service, or a combination of these.

122. (New) The network service plan provisioning system of claim 1, wherein at least one of the one or more policies is dependent on a network state.

123. (New) The network service plan provisioning system of claim 122, wherein the network state comprises a congestion state of the wireless access network, a network location, a type of the wireless access network, whether the wireless access network is a roaming network, a routing identifier associated with the wireless access network, or a combination of these.

124. (New) The network service plan provisioning system of claim 123, wherein the congestion state is based on a time of day, a measure of network congestion, a measure of a delay, a measure of a jitter, a packet error rate, or a combination of these.

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REMARKS

The Office Action dated December 17, 2012, imposed a restriction requirement on claims 1-29, asserting that claim 1 is generic to the disclosed patentably distinct species: Figures 1-38. The Office Action states that the figures do not coincide with the "Brief Description of the Drawings" on page 7 of the descriptive portion of the specification, and that the drawing figures are not clearly illustrated. The Office Action further states that the scope of the figures, in juxtaposition with the claim language, is not clear.

Applicants respectfully request reconsideration of the restriction requirement. Applicants respectfully submit that Figures 1-11, provided on 38 drawing sheets, coincide with the "Brief Description of the Drawings." To clarify the "Brief Description of the Drawings," however, Applicants are amending paragraph [0010] of the specification to reflect that Figure 3 includes the twenty-eight drawings labeled as Figures 3A through 3AB.

Claims 1-7 and 11-29 are being amended herein to improve clarity. Claims 8-10 are being canceled. Applicants respectfully submit that amended claims 1-7 and 11-29 are adequately illustrated in Figures 1-11, and that the detailed description and claims are in alignment with the drawings.

Applicants respectfully request examination of all claims as amended herein. Alternatively, Applicants respectfully request an identification of groups of claims from which Applicants may elect a group for further prosecution.

Claims 30-124 are being added. Claim 30 is supported at least by original claim 8. Claim 31 is supported at least by original claim 9. Claim 32 is supported at least by original claim 10. Claims 33-37 are supported at least by paragraph [0031]. Claim 38 is supported at least by original claim 9. Claim 39 is supported at least by paragraph [0031]. Claim 40 is supported at least by paragraphs [0031] and [0115]. Claim 41 is supported at least by paragraphs [0031], [0098], and [0115]. Claim 42 is supported at least by paragraph [0142]. Claim 43 is supported at least by paragraphs [0164] and [0169]. Claim 44 is supported at least by paragraph [0207]. Claim 45 is supported at least by paragraph [0208]. Claim 46 is supported at least by paragraph [0223]. Claim 47 is supported at least by paragraphs [0053], [0072], [0073], and [0138]. Claim 48 is supported at least by paragraphs [0141] and [0147]. Claims 49 and 50 are

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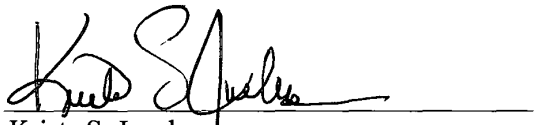
supported at least by paragraphs [0088] and [0090]. Claim 51 is supported at least by paragraph [0042]. Claims 52-54 are supported at least by paragraph [0090]. Claim 55 and 56 are supported at least by paragraph [0097]. Claim 57 is supported at least by paragraphs [0020], [0039], and [0042]. Claim 58 is supported at least by paragraphs [0088] and [0089]. Claim 59 is supported at least by paragraphs [0039], [0043], [0057]-[0059], [0089], and [0103]. Claim 60 is supported at least by paragraphs [0043] and [0088]. Claim 61 is supported at least by paragraph [0043]. Claim 62 is supported at least by paragraph [0089]. Claims 63-74 are supported at least by paragraph [0043]. Claims 75-79 are supported at least by paragraph [0089]. Claims 80 and 81 are supported at least by paragraph [0119]. Claim 82 is supported at least by paragraph [0110]. Claims 83 and 84 are supported at least by paragraph [0119]. Claims 85 and 86 are supported at least by paragraph [0132]. Claim 87 is supported at least by paragraph [0088]. Claim 88 is supported at least by paragraph [0139]. Claim 89 is supported at least by paragraph [0088]. Claim 90 is supported at least by paragraph [0139]. Claims 91-93 are supported at least by paragraph [0083]. Claims 94-95 are supported at least by paragraph [0139]. Claim 96 is supported at least by paragraph [0041]. Claim 97 is supported at least by paragraph [0098]. Claim 98 is supported at least by paragraph [0099]. Claim 99 is supported at least by paragraphs [0099]-[0107]. Claim 100 is supported at least by paragraphs [0099] and [0109]. Claim 101 is supported at least by paragraph [0044]. Claim 102 is supported at least by paragraphs [0044] and [0052]. Claims 103 and 104 are supported at least by paragraph [0045]. Claim 105 is supported at least by paragraph [0056]. Claims 106-109 are supported at least by paragraphs [0047], [0050], and [0051]. Claims 110 and 111 are supported at least by paragraph [0054]. Claims 112 and 113 are supported at least by paragraph [0056]. Claim 114 is supported at least by paragraph [0135]. Claims 115 and 116 are supported at least by paragraph [0124]. Claim 117 is supported at least by paragraphs [0124] and [0125]. Claim 118 is supported at least by paragraph [0134]. Claim 119 is supported at least by paragraph [0135]. Claim 120 is supported at least by paragraphs [0196] and [0223]. Claim 121 is supported at least by paragraphs [0193]-[0195] and [0197]-[0203]. Claim 122 is supported at least by paragraphs [0367]-[0373]. Claim 123 is supported at least by paragraphs [0388] and [0389]. Claim 124 is supported at least by paragraphs [0390] and [0391].

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CONCLUSION

If the Examiner has any questions or needs any additional information, the Examiner is invited to contact the undersigned. The Commissioner is authorized to charge any fee deficiency or credit any overpayment to Deposit Account 50-5876.

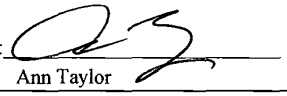
Respectfully submitted,

Date: February 19, 2013 By: 

Krista S. Jacobsen
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Headwater Partners I LLC
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CERTIFICATE OF ELECTRONIC TRANSMISSION

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being filed electronically via EFS-Web addressed to the Commissioner for Patents on:

Date: Feb. 19, 2013 By: 
Ann Taylor

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/248,025	09/28/2011	Gregory G. Raleigh	RALEP043 [26WV-160520]	7281

107265 7590 12/17/2012

Headwater Partners I LLC - Outside Firm 1
350 Marine Parkway, Suite 300
Redwood Shores, CA 94065

EXAMINER	
RUDY, ANDREW J	

ART UNIT	PAPER NUMBER
3687	

NOTIFICATION DATE	DELIVERY MODE
12/17/2012	ELECTRONIC

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

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patent@headwaterllc.com

Office Action Summary	Application No.	Applicant(s)	
	13/248,025	RALEIGH ET AL.	
	Examiner	Art Unit	
	ANDREW JOSEPH RUDY	3687	

-- 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 1 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 *28 September 2012*.

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

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ 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

5)☒ Claim(s) *1-29* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☐ Claim(s) _____ is/are rejected.

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

9)☒ Claim(s) *1-29* are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

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

11)☐ 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).

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) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claim(s) 1 is/are generic to the following disclosed patentably distinct species: Figures 1-38. The species are independent or distinct because. In addition, these species are not obvious variants of each other based on the current record.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, or a single grouping of patentably indistinct species, for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

There is a search and/or examination burden for the patentably distinct species as set forth above because at least the following reason(s) apply:

The drawing Figures do not coincide with the "BRIEF DESCRIPTION OF THE DRAWINGS" from page 7 of the descriptive portion of the specification. Also, the drawing figures are not clearly illustrated. Thus, as is, the scope of figures, in juxtaposition with the claim language is not clear.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or a grouping of patentably indistinct species to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species or grouping of patentably indistinct species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species or grouping of patentably indistinct species.

Should applicant traverse on the ground that the species, or groupings of patentably indistinct species from which election is required, are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing them to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

2. A telephone call was made to Krista Jacobsen (Reg. No. 59,374) on December 11, 2012 to request an oral election to the above restriction requirement, but did not result in an election being made.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW JOSEPH RUDY whose telephone number is (571)272-6789. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Gart can be reached on 571-272-3955. 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). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ANDREW JOSEPH RUDY/
Primary Examiner, Art Unit 3687

PTO/SB/21 (07-09)
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission: 49

Application Number	13/248,025
Filing Date	September 28, 2011
First Named Inventor	Gregory G. Raleigh, et al.
Art Unit	2447 Conf. No. 7281
Examiner Name	Not Yet Assigned
Attorney Docket Number	26WV-160520 [RALEP043]

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Preliminary Amendment
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement with PTO/SB/08a/b
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
- ☒ Reply to Missing Parts under 37 CFR 1.52 or 1.53 (2 pgs.)
- ☒ Replacement drawings (38 sheets)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Atty. to Prosecute Applications [PTO/SB/80]
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
- ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☒ Other Enclosure(s) (please Identify below):
  Declaration for Utility Application (8 pgs).

Remarks

You are hereby authorized to charge any additional fee required or credit any overpayment to Deposit Account No. 50-4561.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Sheppard, Mullin, Richter & Hampton LLP		Customer No. 69849
Signature	Mukund H. Sharma		
Printed name	Mukund H. Sharma		
Date	December 19, 2011	Reg. No.	64,692

CERTIFICATE OF ELECTRONIC TRANSMISSION

I hereby certify that this correspondence is being filed electronically via EFS-Web addressed to the Commissioner for Patents on the date shown below:

Signature	Linda K. Brost		
Typed or printed name	Linda K. Brost	Date	December 19, 2011

This collection of information is required by 37 CFR 1.5. 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 1.11 and 1.14. This collection is estimated to 2 hours 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Examiner:
Gregory G. Raleigh, et al.	Not Yet Assigned
Serial No. 13/248,025	Art Unit: 2447
Filed: September 28, 2011	Conf. No.: 7281

Title: Secure Design Center for Device Assisted Services

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

PRELIMINARY AMENDMENT

Sir:

Prior to examination of the above-referenced application, please enter the following amendments and consider the following remarks:

In the Specification:

Please replace Paragraphs [0001] through [0004] on Pages 1 through 5 of the specification with the following paragraphs [0001] through [0004]:

-- **[0001]** This application is a continuation-in-part of and incorporates by reference the following U.S. pending non-provisional patent applications: U.S. serial No. 12/380,759 filed March 2, 2009, entitled "Verifiable Device Assisted Service Policy Implementation," U.S. serial No. 12/380,779 filed March 2, 2009, entitled "Device Assisted Service Profile Management with User Preference, Adaptive Policy, Network Neutrality, and User Privacy," U.S. serial No. 12/380,758 filed March 2, 2009, entitled "Verifiable Device Assisted Service Usage Monitoring with Reporting, Synchronization, and Notification," U.S. serial No. 12/380,778 filed March 2, 2009, entitled "Verifiable Device Assisted Service Usage Billing with Integrated Accounting, Mediation Accounting, and Multi-Account," U.S. serial No. 12/380,768 filed March 2, 2009, entitled "Network Based Service Policy Implementation with Network Neutrality and User Privacy," U.S. serial No. 12/380,767 filed March 2, 2009, entitled "Network Based Service Profile Management with User Preference, Adaptive Policy, Network Neutrality and User Privacy," U.S. serial No. 12/380,780 filed March 2, 2009, entitled "Automated Device Provisioning and Activation," U.S. serial No. 12/380,755 filed March 2, 2009, entitled "Device Assisted Ambient Services," U.S. serial No. 12/380,756 filed March 2, 2009, entitled "Network Based Ambient Services," U.S. serial No. 12/380,770 filed March 2, 2009, entitled "Network Tools for Analysis, Design, Testing, and Production of Services," U.S. serial No. 12/380,771 filed March 2, 2009, entitled "Verifiable Service Billing for Intermediate Networking Devices" (issued as U.S. Patent No. 8,023,425 on September 20, 2011), U.S. serial No. 12/380,772 filed March 2, 2009, entitled "Roaming Services Network and Overlay Networks," U.S. serial No. 12/380,782 filed March 2, 2009, entitled "Open Development System for Access Service Providers," U.S. serial No. 12/380,783 filed March 2, 2009, entitled "Virtual Service Provider Systems," U.S. serial No. 12/380,757 filed March 2, 2009, entitled "Service Activation Tracking System," U.S. serial No. 12/380,781 filed March 2, 2009, entitled "Open Transaction Central Billing System," U.S. serial No. 12/380,774 filed March 2, 2009, entitled "Verifiable and Accurate Service Usage Monitoring for Intermediate Networking Devices," U.S. serial No.

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12/380,773 filed March 2, 2009, entitled "Verifiable Service Policy Implementation for Intermediate Networking Devices," U.S. serial No. 12/380,769 filed March 2, 2009, entitled "Service Profile Management with User Preference, Adaptive Policy, Network Neutrality and User Privacy for Intermediate Networking Devices," U.S. serial No. 12/380,777 filed March 2, 2009, entitled "Simplified Service Network Architecture," U.S. serial No. 12/695,019 filed January 27, 2010, entitled "Device Assisted CDR Creation, Aggregation, Mediation, and Billing," U.S. serial No. 12/695,020 filed January 27, 2010, entitled "Adaptive Ambient Services," U.S. serial No. 12/694,445 filed January 27, 2010, entitled "Security Techniques for Device Assisted Services," U.S. serial No. 12/694,451 filed January 27, 2010, entitled "Device Group Partitions and Settlement Platform," U.S. serial No. 12/694,455 filed January 27, 2010, entitled "Device Assisted Services Install," U.S. serial No. 12/695,021 filed January 27, 2010, entitled "Quality of Service for Device Assisted Services," U.S. serial No. 12/695,980 filed January 28, 2010, entitled "Enhanced Roaming Services and Converged Carrier Networks with Device Assisted Services and a Proxy," U.S. serial No. 13/134,028 filed May 25, 2011, entitled "Device-Assisted Services for Protecting Network Capacity," U.S. serial No. 13/134,005 filed May 25, 2011, entitled "System and Method for Wireless Network Offloading," U.S. serial No. 13/229,580 filed September 9, 2011, entitled "Wireless Network Service Interfaces," U.S. serial No. 13/237,827 filed September 20, 2011, entitled "Adapting Network Policies Based on Device Service Processor Configuration," U.S. serial No. 13/239,321 filed September 21, 2011, entitled "Service Offer Set Publishing to Device Agent with On-Device Service Selection," U.S. serial No. 13/248,028 filed September 28, 2011, entitled "Enterprise Access Control and Accounting Allocation for Access Networks" and U.S. serial No. 13/247,998 filed September 28, 2011, entitled "Secure Device Data Records." This application claims priority to and incorporates by reference the following U.S. pending provisional patent applications: U.S. provisional serial No. 61/387,243 filed September 28, 2010, entitled "Enterprise and Consumer Billing Allocation for Wireless Communication Device Service Usage Activities," U.S. provisional serial No. 61/387,247 filed September 28, 2010, entitled "Secured Device Data Records," U.S. provisional serial No. 61/389,547 filed October 4, 2010, entitled "User Notifications for Device Assisted Services," U.S. provisional serial No. 61/407,358 filed October 27, 2010, entitled "Service Controller and Service Processor Architecture," U.S. provisional serial No. 61/418,507 filed December 1, 2010, entitled "Application Service Provider Interface System," U.S. provisional

serial No. 61/418,509 filed December 1, 2010, entitled "Service Usage Reporting Reconciliation and Fraud Detection for Device Assisted Services," U.S. provisional serial No. 61/420,727 filed December 7, 2010, entitled "Secure Device Data Records," U.S. provisional serial No. 61/422,565 filed December 13, 2010, entitled "Service Design Center for Device Assisted Services," U.S. provisional serial No. 61/422,572 filed December 13, 2010, entitled "System Interfaces and Workflows for Device Assisted Services," U.S. provisional serial No. 61/422,574 filed December 13, 2010, entitled "Security and Fraud Detection for Device Assisted Services," U.S. provisional serial No. 61/435,564 filed January 24, 2011, entitled "Framework for Device Assisted Services," and U.S. provisional serial No. 61/472,606 filed April 6, 2011, entitled "Managing Service User Discovery and Service Launch Object Placement on a Device."

[0002] Further, this application incorporates by reference the following U.S. provisional patent applications: U.S. provisional serial No. 61/206,354 filed January 28, 2009, entitled "Services Policy Communication System and Method," U.S. provisional serial No. 61/206,944 filed February 4, 2009, entitled "Services Policy Communication System and Method," U.S. provisional serial No. 61/207,393 filed February 10, 2009, entitled "Services Policy Communication System and Method," U.S. provisional serial No. 61/207,739 filed February 13, 2009, entitled "Services Policy Communication System and Method," U.S. provisional serial No. 61/270,353 filed July 6, 2009, entitled "Device Assisted CDR Creation, Aggregation, Mediation and Billing," U.S. provisional serial No. 61/275,208 filed August 25, 2009, entitled "Adaptive Ambient Services," U.S. provisional serial No. 61/237,753 filed August 28, 2009, entitled "Adaptive Ambient Services," U.S. provisional serial No. 61/252,151 filed October 15, 2009, entitled "Security Techniques for Device Assisted Services," U.S. provisional serial No. 61/252,153 filed October 15, 2009, entitled "Device Group Partitions and Settlement Platform," U.S. provisional serial No. 61/264,120 filed November 24, 2009, entitled "Device Assisted Services Install," U.S. provisional serial No. 61/264,126 filed November 24, 2009, entitled "Device Assisted Services Activity Map," U.S. provisional serial No. 61/348,022 filed May 25, 2010, entitled "Device Assisted Services for Protecting Network Capacity," U.S. provisional serial No. 61/381,159 filed September 9, 2010, entitled "Device Assisted Services for Protecting Network Capacity," U.S. provisional serial No. 61/381,162 filed September 9, 2010, entitled "Service Controller Interfaces and Workflows," U.S. provisional serial No. 61/384,456 filed

September 20, 2010, entitled "Securing Service Processor with Sponsored SIMs," and U.S. provisional serial No. 61/385,020 filed September 21, 2010, entitled "Service Usage Reconciliation System Overview."

[0003] The following applications, U.S. serial No. 12/380,759 filed March 2, 2009, entitled "Verifiable Device Assisted Service Policy Implementation," U.S. serial No. 12/380,779 filed March 2, 2009, entitled "Device Assisted Service Profile Management with User Preference, Adaptive Policy, Network Neutrality, and User Privacy," U.S. serial No. 12/380,758 filed March 2, 2009, entitled "Verifiable Device Assisted Service Usage Monitoring with Reporting, Synchronization, and Notification," U.S. serial No. 12/380,778 filed March 2, 2009, entitled "Verifiable Device Assisted Service Usage Billing with Integrated Accounting, Mediation Accounting, and Multi-Account," U.S. serial No. 12/380,768 filed March 2, 2009, entitled "Network Based Service Policy Implementation with Network Neutrality and User Privacy," U.S. serial No. 12/380,767 filed March 2, 2009, entitled "Network Based Service Profile Management with User Preference, Adaptive Policy, Network Neutrality and User Privacy," U.S. serial No. 12/380,780 filed March 2, 2009, entitled "Automated Device Provisioning and Activation," U.S. serial No. 12/380,755 filed March 2, 2009, entitled "Device Assisted Ambient Services," U.S. serial No. 12/380,756 filed March 2, 2009, entitled "Network Based Ambient Services," U.S. serial No. 12/380,770 filed March 2, 2009, entitled "Network Tools for Analysis, Design, Testing, and Production of Services," U.S. serial No. 12/380,772 filed March 2, 2009, entitled "Roaming Services Network and Overlay Networks," U.S. serial No. 12/380,782 filed March 2, 2009, entitled "Open Development System for Access Service Providers," U.S. serial No. 12/380,783 filed March 2, 2009, entitled "Virtual Service Provider Systems," U.S. serial No. 12/380,757 filed March 2, 2009, entitled "Service Activation Tracking System," U.S. serial No. 12/380,781 filed March 2, 2009, entitled "Open Transaction Central Billing System," U.S. serial No. 12/380,774 filed March 2, 2009, entitled "Verifiable and Accurate Service Usage Monitoring for Intermediate Networking Devices," U.S. serial No. 12/380,771 filed March 2, 2009, entitled "Verifiable Service Billing for Intermediate Networking Devices" (issued as U.S. Patent No. 8,023,425 on September 20, 2011), U.S. serial No. 12/380,773 filed March 2, 2009, entitled "Verifiable Service Policy Implementation for Intermediate Networking Devices," U.S. serial No. 12/380,777 filed March 2, 2009, entitled "Simplified Service Network Architecture,"

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U.S. serial No. 12/695,019 filed January 27, 2010, entitled "Device Assisted CDR Creation, Aggregation, Mediation, and Billing," U.S. serial No. 12/695,020 filed January 27, 2010, entitled "Adaptive Ambient Services," U.S. serial No. 12/694,445 filed January 27, 2010, entitled "Security Techniques for Device Assisted Services," U.S. serial No. 12/694,451 filed January 27, 2010, entitled "Device Group Partitions and Settlement Platform," U.S. serial No. 12/694,455 filed January 27, 2010, entitled "Device Assisted Services Install," U.S. serial No. 12/695,021 filed January 27, 2010, entitled "Quality of Service for Device Assisted Services," and U.S. serial No. 12/695,980 filed January 28, 2010, entitled "Enhanced Roaming Services and Converged Carrier Networks with Device Assisted Services and a Proxy," claim priority to U.S. provisional serial No. 61/206,354 filed January 28, 2009, entitled "Services Policy Communication System and Method." The following applications, U.S. serial No. 12/380,759 filed March 2, 2009, entitled "Verifiable Device Assisted Service Policy Implementation," U.S. serial No. 12/380,779 filed March 2, 2009, entitled "Device Assisted Service Profile Management with User Preference, Adaptive Policy, Network Neutrality, and User Privacy," U.S. serial No. 12/380,758 filed March 2, 2009, entitled "Verifiable Device Assisted Service Usage Monitoring with Reporting, Synchronization, and Notification," U.S. serial No. 12/380,778 filed March 2, 2009, entitled "Verifiable Device Assisted Service Usage Billing with Integrated Accounting, Mediation Accounting, and Multi-Account," U.S. serial No. 12/380,768 filed March 2, 2009, entitled "Network Based Service Policy Implementation with Network Neutrality and User Privacy," U.S. serial No. 12/380,767 filed March 2, 2009, entitled "Network Based Service Profile Management with User Preference, Adaptive Policy, Network Neutrality and User Privacy," U.S. serial No. 12/380,780 filed March 2, 2009, entitled "Automated Device Provisioning and Activation," U.S. serial No. 12/380,755 filed March 2, 2009, entitled "Device Assisted Ambient Services," U.S. serial No. 12/380,756 filed March 2, 2009, entitled "Network Based Ambient Services," U.S. serial No. 12/380,770 filed March 2, 2009, entitled "Network Tools for Analysis, Design, Testing, and Production of Services," U.S. serial No. 12/380,772 filed March 2, 2009, entitled "Roaming Services Network and Overlay Networks," U.S. serial No. 12/380,782 filed March 2, 2009, entitled "Open Development System for Access Service Providers," U.S. serial No. 12/380,783 filed March 2, 2009, entitled "Virtual Service Provider Systems," U.S. serial No. 12/380,757 filed March 2, 2009, entitled "Service Activation Tracking System," U.S. serial No. 12/380,781 filed March 2, 2009, entitled "Open Transaction Central

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Billing System," U.S. serial No. 12/380,774 filed March 2, 2009, entitled "Verifiable and Accurate Service Usage Monitoring for Intermediate Networking Devices," U.S. serial No. 12/380,771 filed March 2, 2009, entitled "Verifiable Service Billing for Intermediate Networking Devices" (issued as U.S. Patent No. 8,023,425 on September 20, 2011), U.S. serial No. 12/380,773 filed March 2, 2009, entitled "Verifiable Service Policy Implementation for Intermediate Networking Devices," U.S. serial No. 12/380,777 filed March 2, 2009, entitled "Simplified Service Network Architecture," U.S. serial No. 12/695,019 filed January 27, 2010, entitled "Device Assisted CDR Creation, Aggregation, Mediation, and Billing," U.S. serial No. 12/695,020 filed January 27, 2010, entitled "Adaptive Ambient Services," U.S. serial No. 12/694,445 filed January 27, 2010, entitled "Security Techniques for Device Assisted Services," U.S. serial No. 12/694,451 filed January 27, 2010, entitled "Device Group Partitions and Settlement Platform," U.S. serial No. 12/694,455 filed January 27, 2010, entitled "Device Assisted Services Install," U.S. serial No. 12/695,021 filed January 27, 2010, entitled "Quality of Service for Device Assisted Services," and U.S. serial No. 12/695,980 filed January 28, 2010, entitled "Enhanced Roaming Services and Converged Carrier Networks with Device Assisted Services and a Proxy," claim priority to U.S. provisional serial No. 61/206,944 filed February 4, 2009, entitled "Services Policy Communication System and Method." The following applications, U.S. serial No. 12/380,759 filed March 2, 2009, entitled "Verifiable Device Assisted Service Policy Implementation," U.S. serial No. 12/380,779 filed March 2, 2009, entitled "Device Assisted Service Profile Management with User Preference, Adaptive Policy, Network Neutrality, and User Privacy," U.S. serial No. 12/380,758 filed March 2, 2009, entitled "Verifiable Device Assisted Service Usage Monitoring with Reporting, Synchronization, and Notification," U.S. serial No. 12/380,778 filed March 2, 2009, entitled "Verifiable Device Assisted Service Usage Billing with Integrated Accounting, Mediation Accounting, and Multi-Account," U.S. serial No. 12/380,768 filed March 2, 2009, entitled "Network Based Service Policy Implementation with Network Neutrality and User Privacy," U.S. serial No. 12/380,767 filed March 2, 2009, entitled "Network Based Service Profile Management with User Preference, Adaptive Policy, Network Neutrality and User Privacy," U.S. serial No. 12/380,780 filed March 2, 2009, entitled "Automated Device Provisioning and Activation," U.S. serial No. 12/380,755 filed March 2, 2009, entitled "Device Assisted Ambient Services," U.S. serial No. 12/380,756 filed March 2, 2009, entitled "Network Based Ambient Services," U.S. serial No. 12/380,770

filed March 2, 2009, entitled "Network Tools for Analysis, Design, Testing, and Production of Services," U.S. serial No. 12/380,772 filed March 2, 2009, entitled "Roaming Services Network and Overlay Networks," U.S. serial No. 12/380,782 filed March 2, 2009, entitled "Open Development System for Access Service Providers," U.S. serial No. 12/380,783 filed March 2, 2009, entitled "Virtual Service Provider Systems," U.S. serial No. 12/380,757 filed March 2, 2009, entitled "Service Activation Tracking System," U.S. serial No. 12/380,781 filed March 2, 2009, entitled "Open Transaction Central Billing System," U.S. serial No. 12/380,774 filed March 2, 2009, entitled "Verifiable and Accurate Service Usage Monitoring for Intermediate Networking Devices," U.S. serial No. 12/380,771 filed March 2, 2009, entitled "Verifiable Service Billing for Intermediate Networking Devices" (issued as U.S. Patent No. 8,023,425 on September 20, 2011), U.S. serial No. 12/380,773 filed March 2, 2009, entitled "Verifiable Service Policy Implementation for Intermediate Networking Devices," U.S. serial No. 12/380,777 filed March 2, 2009, entitled "Simplified Service Network Architecture," U.S. serial No. 12/695,019 filed January 27, 2010, entitled "Device Assisted CDR Creation, Aggregation, Mediation, and Billing," U.S. serial No. 12/695,020 filed January 27, 2010, entitled "Adaptive Ambient Services," U.S. serial No. 12/694,445 filed January 27, 2010, entitled "Security Techniques for Device Assisted Services," U.S. serial No. 12/694,451 filed January 27, 2010, entitled "Device Group Partitions and Settlement Platform," U.S. serial No. 12/694,455 filed January 27, 2010, entitled "Device Assisted Services Install," U.S. serial No. 12/695,021 filed January 27, 2010, entitled "Quality of Service for Device Assisted Services," and U.S. serial No. 12/695,980 filed January 28, 2010, entitled "Enhanced Roaming Services and Converged Carrier Networks with Device Assisted Services and a Proxy," claim priority to U.S. provisional serial No. 61/207,393 filed February 10, 2009, entitled "Services Policy Communication System and Method." The following applications, U.S. serial No. 12/380,759 filed March 2, 2009, entitled "Verifiable Device Assisted Service Policy Implementation," U.S. serial No. 12/380,779 filed March 2, 2009, entitled "Device Assisted Service Profile Management with User Preference, Adaptive Policy, Network Neutrality, and User Privacy," U.S. serial No. 12/380,758 filed March 2, 2009, entitled "Verifiable Device Assisted Service Usage Monitoring with Reporting, Synchronization, and Notification," U.S. serial No. 12/380,778 filed March 2, 2009, entitled "Verifiable Device Assisted Service Usage Billing with Integrated Accounting, Mediation Accounting, and Multi-Account," U.S. serial No. 12/380,768 filed March 2, 2009, entitled

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"Network Based Service Policy Implementation with Network Neutrality and User Privacy," U.S. serial No. 12/380,767 filed March 2, 2009, entitled "Network Based Service Profile Management with User Preference, Adaptive Policy, Network Neutrality and User Privacy," U.S. serial No. 12/380,780 filed March 2, 2009, entitled "Automated Device Provisioning and Activation," U.S. serial No. 12/380,755 filed March 2, 2009, entitled "Device Assisted Ambient Services," U.S. serial No. 12/380,756 filed March 2, 2009, entitled "Network Based Ambient Services," U.S. serial No. 12/380,770 filed March 2, 2009, entitled "Network Tools for Analysis, Design, Testing, and Production of Services," U.S. serial No. 12/380,772 filed March 2, 2009, entitled "Roaming Services Network and Overlay Networks," U.S. serial No. 12/380,782 filed March 2, 2009, entitled "Open Development System for Access Service Providers," U.S. serial No. 12/380,783 filed March 2, 2009, entitled "Virtual Service Provider Systems," U.S. serial No. 12/380,757 filed March 2, 2009, entitled "Service Activation Tracking System," U.S. serial No. 12/380,781 filed March 2, 2009, entitled "Open Transaction Central Billing System," U.S. serial No. 12/380,774 filed March 2, 2009, entitled "Verifiable and Accurate Service Usage Monitoring for Intermediate Networking Devices," U.S. serial No. 12/380,771 filed March 2, 2009, entitled "Verifiable Service Billing for Intermediate Networking Devices" (issued as U.S. Patent No. 8,023,425 on September 20, 2011), U.S. serial No. 12/380,773 filed March 2, 2009, entitled "Verifiable Service Policy Implementation for Intermediate Networking Devices," U.S. serial No. 12/380,777 filed March 2, 2009, entitled "Simplified Service Network Architecture," U.S. serial No. 12/695,019 filed January 27, 2010, entitled "Device Assisted CDR Creation, Aggregation, Mediation, and Billing," U.S. serial No. 12/695,020 filed January 27, 2010, entitled "Adaptive Ambient Services," U.S. serial No. 12/694,445 filed January 27, 2010, entitled "Security Techniques for Device Assisted Services," U.S. serial No. 12/694,451 filed January 27, 2010, entitled "Device Group Partitions and Settlement Platform," U.S. serial No. 12/694,455 filed January 27, 2010, entitled "Device Assisted Services Install," U.S. serial No. 12/695,021 filed January 27, 2010, entitled "Quality of Service for Device Assisted Services," and U.S. serial No. 12/695,980 filed January 28, 2010, entitled "Enhanced Roaming Services and Converged Carrier Networks with Device Assisted Services and a Proxy," claim priority to U.S. provisional serial No. 61/207,739 filed February 13, 2009, entitled "Services Policy Communication System and Method." The following applications, U.S. serial No. 12/695,019 filed January 27, 2010, entitled "Device Assisted CDR Creation, Aggregation, Mediation, and

Billing," U.S. serial No. 12/694,451 filed January 27, 2010, entitled "Device Group Partitions and Settlement Platform," and U.S. serial No. 12/695,980 filed January 28, 2010, entitled "Enhanced Roaming Services and Converged Carrier Networks with Device Assisted Services and a Proxy," claim priority to U.S. provisional serial No. 61/270,353 filed July 6, 2009, entitled "Device Assisted CDR Creation, Aggregation, Mediation and Billing." The following application, U.S. serial No. 12/695,020 filed January 27, 2010, entitled "Adaptive Ambient Services," claims priority to U.S. provisional serial No. 61/275,208 filed August 25, 2009, entitled "Adaptive Ambient Services." The following application, U.S. serial No. 12/695,020 filed January 27, 2010, entitled "Adaptive Ambient Services," claims priority to U.S. provisional serial No. 61/237,753 filed August 28, 2009, entitled "Adaptive Ambient Services." The following applications, U.S. serial No. 12/694,445 filed January 27, 2010, entitled "Security Techniques for Device Assisted Services," and U.S. serial No. 12/695,021 filed January 27, 2010 entitled "Quality of Service for Device Assisted Services," claim priority to U.S. provisional serial No. 61/252,151 filed October 15, 2009, entitled "Security Techniques for Device Assisted Services." The following applications, U.S. serial No. 12/694,451 filed January 27, 2010, entitled "Device Group Partitions and Settlement Platform," and U.S. serial No. 12/695,021 filed January 27, 2010, entitled "Quality of Service for Device Assisted Services," claim priority to U.S. provisional serial No. 61/252,153 filed October 15, 2009, entitled "Device Group Partitions and Settlement Platform." The following application, U.S. serial No. 12/694,455 filed January 27, 2010, entitled "Device Assisted Services Install," claims priority to U.S. provisional serial No. 61/264,120 filed November 24, 2009, entitled "Device Assisted Services Install." The following application, U.S. serial No. 12/695,019 filed January 27, 2010, entitled "Device Assisted CDR Creation, Aggregation, Mediation, and Billing," claims priority to U.S. provisional serial No. 61/264,126 filed November 24, 2009, entitled "Device Assisted Services Activity Map." The following applications, U.S. serial No. 13/134,028 filed May 25, 2011, entitled "Device-Assisted Services for Protecting Network Capacity," and U.S. serial No. 13/134,005 filed May 25, 2011, entitled "System and Method for Wireless Network Offloading," claim priority to U.S. provisional serial No. 61/348,022 filed May 25, 2010, entitled "Device Assisted Services for Protecting Network Capacity." The following application, U.S. serial No. 13,229,580 filed September 9, 2011, entitled "Wireless Network Service Interfaces," claims priority to U.S. provisional serial No. 61/381,159 filed September 9, 2010, entitled "Device

Assisted Services for Protecting Network Capacity." The following application, U.S. serial No. 13,229,580 filed September 9, 2011, entitled "Wireless Network Service Interfaces," claims priority to U.S. provisional serial No. 61/381,162 filed September 9, 2010, entitled "Service Controller Interfaces and Workflows." The following application, U.S. serial No. 13/237,827 filed September 20, 2011, entitled "Adapting Network Policies Based on Device Service Processor Configuration," claims priority to U.S. provisional serial No. 61/384,456 filed September 20, 2010, entitled "Securing Service Processor with Sponsored SIMs." The following application, U.S. serial No. 13/239,321 filed September 21, 2011, entitled "Service Office Set Publishing to Device Agent with On-Device Service Selection," claims priority to U.S. provisional serial No. 61/385,020 filed September 21, 2010, entitled "Service Usage Reconciliation System Overview."

[0004] All of the above patents and applications are hereby incorporated by reference. --

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REMARKS

Applicants respectfully request entry of the preliminary amendment set forth in this paper. Paragraphs [0001] through [0004] of the specification are being replaced herein.

The undersigned authorizes any fees which may be required, or credit any overpayment to Deposit Account No. 50-4561. Should the Examiner have any questions or need any additional information regarding this communication, the Examiner is invited to contact the undersigned at the telephone number shown below.

Respectfully submitted,

Date: December 16, 2011 By: _____

Marc A. Sockol
Reg. No. 40,823
Customer Number 69849
Sheppard Mullin Richter & Hampton LLP
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Palo Alto, CA 94301-1432
Telephone: (650) 815-2600

CERTIFICATE OF ELECTRONIC TRANSMISSION

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being filed electronically via EFS-Web addressed to the Commissioner for Patents on:

Date: December 16, 2011 By: Linda K. Brost
Linda K. Brost

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Petitioners' Exhibit 1002
Page 000158

Electronic Acknowledgement Receipt	
EFS ID:	11643578
Application Number:	13248025
International Application Number:	
Confirmation Number:	7281
Title of Invention:	SERVICE DESIGN CENTER FOR DEVICE ASSISTED SERVICES
First Named Inventor/Applicant Name:	Gregory G. Raleigh
Customer Number:	69849
Filer:	Marc A. Sockol
Filer Authorized By:	
Attorney Docket Number:	26WV-160520 [RALEP043]
Receipt Date:	16-DEC-2011
Filing Date:	28-SEP-2011
Time Stamp:	19:25:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		160520-RALEP043-PrelimAmendNotofChgofEntityStatus121611.pdf	290907 cb4f98af89ce376fcbbd3da624f383d8117fe6c1	yes	14

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	1
	Miscellaneous Incoming Letter	2	2
	Preliminary Amendment	3	13
	Applicant Arguments/Remarks Made in an Amendment	14	14
Warnings:			
Information:			
	Total Files Size (in bytes):	290907	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/21 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission	14

Application Number	13/248,025
Filing Date	September 28, 2011
First Named Inventor	Gregory G. Raleigh, et al.
Art Unit	2447 Conf. No. 7281
Examiner Name	Not Yet Assigned
Attorney Docket Number	26WV-160520 [RALEP043]

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☒ Preliminary Amendment (12 pgs.)
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement with PTO/SB/08a/b
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
- ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Atty. to Prosecute Applications [PTO/SB/80]
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
- ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC (**Appeal Notice, Brief, Reply Brief**)
- ☐ Proprietary Information
- ☐ Status Letter
- ☒ Other Enclosure(s) (please Identify below):
  Notice of Change of Entity Status from Large to Small (1 pg.)

Remarks

You are hereby authorized to charge any additional fee required or credit any overpayment to Deposit Account No. 50-4561.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Sheppard, Mullin, Richter & Hampton LLP Customer No. 69849		
Signature			
Printed name	Marc A. Sockol		
Date	December 16, 2011	Reg. No.	40,823

CERTIFICATE OF ELECTRONIC TRANSMISSION

I hereby certify that this correspondence is being filed electronically via EFS-Web addressed to the Commissioner for Patents on the date shown below:

Signature	Linda K Brost		
Typed or printed name	Linda K. Brost	Date	December 16, 2011

This collection of information is required by 37 CFR 1.5. 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 1.11 and 1.14. This collection is estimated to 2 hours 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Examiner:
Gregory G. Raleigh, et al.	Not Yet Assigned
Serial No. 13/248,025	Art Unit: 2447
Filed: September 28, 2011	Conf. No.: 7281

Title: Secure Design Center for Device Assisted Services

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

NOTICE OF CHANGE OF ENTITY STATUS FROM LARGE TO SMALL

Dear Sir:

The Applicant herein is now entitled to claim small entity status for the above-referenced patent application, and shall henceforth pay fees due at the small entity rate.

Please change your records to reflect this change in entity status.

No fee should be required for this change of entity status, but if such fee is determined to be owed, please charge Deposit Account No. 50-4561 for the same.

Respectfully submitted,

Date: December 16, 2011 By: _____

Marc A. Sockol
Reg. No. 40,823
Customer Number 69849
Sheppard Mullin Richter & Hampton LLP
379 Lytton Avenue
Palo Alto, CA 94301-1432

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/248,025

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	95		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	310		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	125		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	29 minus 20 =	* 9	x 30 =	270	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1 minus 3 =	*	x 125 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			155			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	955		TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L 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 found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/248,025	09/28/2011	2447	800	26WV-160520 [RALEP043]	29	1

CONFIRMATION NO. 7281

69849
SHEPPARD, MULLIN, RICHTER & HAMPTON LLP
390 Lytton Avenue
Palo Alto, CA 94301

FILING RECEIPT

OC000000050416923

Date Mailed: 10/18/2011

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Gregory G. Raleigh, Residence Not Provided;
Alireza Raissinia, Residence Not Provided;
James Lavine, Residence Not Provided;
Justin James, Residence Not Provided;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CIP of 12/380,757 03/02/2009
and is a CIP of 13/134,005 05/25/2011
and is a CIP of 13/134,028 05/25/2011
and is a CIP of 13/229,580 09/09/2011
and is a CIP of 13/237,827 09/20/2011
and is a CIP of 13/239,321 09/21/2011
and claims benefit of 61/387,243 09/28/2010
and claims benefit of 61/387,247 09/28/2010
and claims benefit of 61/389,547 10/04/2010
and claims benefit of 61/407,358 10/27/2010
and claims benefit of 61/418,507 12/01/2010
and claims benefit of 61/418,509 12/01/2010
and claims benefit of 61/420,727 12/07/2010
and claims benefit of 61/422,565 12/13/2010
and claims benefit of 61/422,572 12/13/2010
and claims benefit of 61/422,574 12/13/2010
and claims benefit of 61/435,564 01/24/2011
and claims benefit of 61/472,606 04/06/2011

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)

If Required, Foreign Filing License Granted: 10/14/2011

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/248,025**

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****
Title

SERVICE DESIGN CENTER FOR DEVICE ASSISTED SERVICES

Preliminary Class

709

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative,

this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/248,025	09/28/2011	Gregory G. Raleigh	26WV-160520 [RALEP043]

CONFIRMATION NO. 7281

69849
SHEPPARD, MULLIN, RICHTER & HAMPTON LLP
390 Lytton Avenue
Palo Alto, CA 94301

FORMALITIES LETTER

OC000000050416924

Date Mailed: 10/18/2011

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. 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 oath or declaration is missing.
  A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
  Note: If a petition under 37 CFR 1.47 is being filed, an oath or declaration in compliance with 37 CFR 1.63 signed by all available joint inventors, or if no inventor is available by a party with sufficient proprietary interest, is required.

The application is informal since it does not comply with the regulations for the reason(s) indicated below.

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

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
  - The drawings submitted to the Office are not electronically reproducible because portions of figures 3A-3AB are missing and/or blurry.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

The applicant needs to satisfy supplemental fees problems indicated below.

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

- A surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of $**65** for a small entity in compliance with 37 CFR 1.27, must be submitted.

SUMMARY OF FEES DUE:

Total fee(s) required within **TWO MONTHS** from the date of this Notice is $**220** for a small entity
- $**65** Surcharge.
- The specification and drawings submitted electronically contain the equivalent of more than 100 pages. Applicant owes $**155** for **12** pages in excess of **100** pages for a small entity in compliance with 37 CFR 1.27.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/ttu/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PTO/SB/05 (08-08)
Approved for use through 09/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	26WV-160520 [RALEP043]
First Inventor	Gregory G. RALEIGH
Title	Service Design Center for Device Assisted Services
Express Mail Label No.	EFS Web Filing

APPLICATION ELEMENTS

See *MPEP chapter 600 concerning utility patent application contents.*

1. ☐ **Fee Transmittal Form** (e.g., PTO/SB/17)
2. ☒ **Applicant claims small entity status.** See 37 CFR 1.27.
3. ☒ **Specification** [*Total Pages* 110]
   Both the claims and abstract must start on a new page
   (For information on the preferred arrangement, see MPEP 608.01(a))
4. ☒ **Drawing(s)** (35 U.S. C. *113*) [*Total Sheets* 38]
5. **Oath or Declaration** [*Total Sheets* _____]
   a. ☐ Newly executed (original or copy)
   b. ☐ A copy from a prior application (37 CFR 1.63(d))
   (for continuation/divisional with Box 18 completed)
   i. ☐ DELETION OF INVENTOR(s)
   Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☐ **Application Data Sheet.** See 37 CFR 1.76
7. ☐ **CD-ROM or CD-R** in duplicate, large table or Computer Program *(Appendix)*
   ☐ Landscape Table on CD
8. **Nucleotide and/or Amino Acid Sequence Submission** *(if applicable, items a. - c. are required)*
   a. ☐ Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. ☐ CD-ROM or CD-R (2 copies); or
      ii. ☐ Paper
   c. ☐ Statements verifying identity of above copies

ADDRESS TO: **Commissioner for Patents**
P.O. Box 1450
Alexandria VA 22313-1450

ACCOMPANYING APPLICATION PARTS

9. ☐ **Assignment Papers** (cover sheet & document(s))
   Name of Assignee _____
10. ☐ **37 CFR 3.73(b) Statement** *(when there is an assignee)* ☐ **Power of Attorney**
11. ☐ **English Translation Document** *(if applicable)*
12. ☐ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
    ☐ Copies of citations attached
13. ☐ **Preliminary Amendment**
14. ☐ **Return Receipt Postcard** (MPEP 503)
    (Should be specifically itemized)
15. ☐ **Certified Copy of Priority Document(s)**
    (if foreign priority is claimed)
16. ☐ **Nonpublication Request** under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent.
17. ☒ Other: General Authorization to Petition for Extensions of Time (1 pg.)

18. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:*

☐ Continuation ☐ Divisional ☒ Continuation-in-part (CIP) of prior application No.: *See application*

Prior application information: *Examiner* _____ *Art Unit:* _____

19. CORRESPONDENCE ADDRESS

☒ The address associated with Customer Number 69849 ***OR*** ☐ Correspondence address below

Name					
Address					
City		State		Zip Code	
Country		Telephone		Email	

Signature		Date	September 28, 2011
Name (Print/Type)	William F. Ahmann	Registration No. (Attorney/Agent)	52,548

This collection of information is required by 37 CFR 1.53(b). 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 1.11 and 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

American LegalNet, Inc.
www.FormsWorkflow.com

IPR2024-01041 / IPR2024-01042
Petitioners' Exhibit 1002
Page 000169

Attorney Docket No.: 26WV-160520 [RALEP043]

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Examiner: Not Yet Assigned

Gregory G. RALEIGH et al. Art Unit: Not Yet Assigned

Serial No: Not Yet Assigned

Filed: Herewith

For: SERVICE DESIGN CENTER FOR DEVICE ASSISTED SERVICES

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

GENERAL AUTHORIZATION TO PETITION FOR EXTENSIONS OF TIME

Dear Sir:

With reference to the subject application, and pursuant to 37 C.F.R. § 1.136, Applicants hereby authorize and request the Commissioner to treat any correspondence requiring a petition for extension of time as containing such a request therefor for the appropriate length of time. This general authorization is effective during the pendency of this application, including any divisional or continuing application therefrom.

Where no check is received by the Commissioner, you are hereby authorized to charge payment of the requisite petition fees, or charge any additional fee required under 37 C.F.R. § 1.17, or credit any overpayment of same, to Deposit Account No. **50-4561.**

Respectfully submitted,

Date: September 28, 2011 By: _____

William F. Ahmann
Reg. No. 52,548
Customer Number 69849
Sheppard Mullin Richter & Hampton LLP
390 Lytton Avenue
Palo Alto, CA 94301-1432

W02-WEST:1LKB1\404013800.1

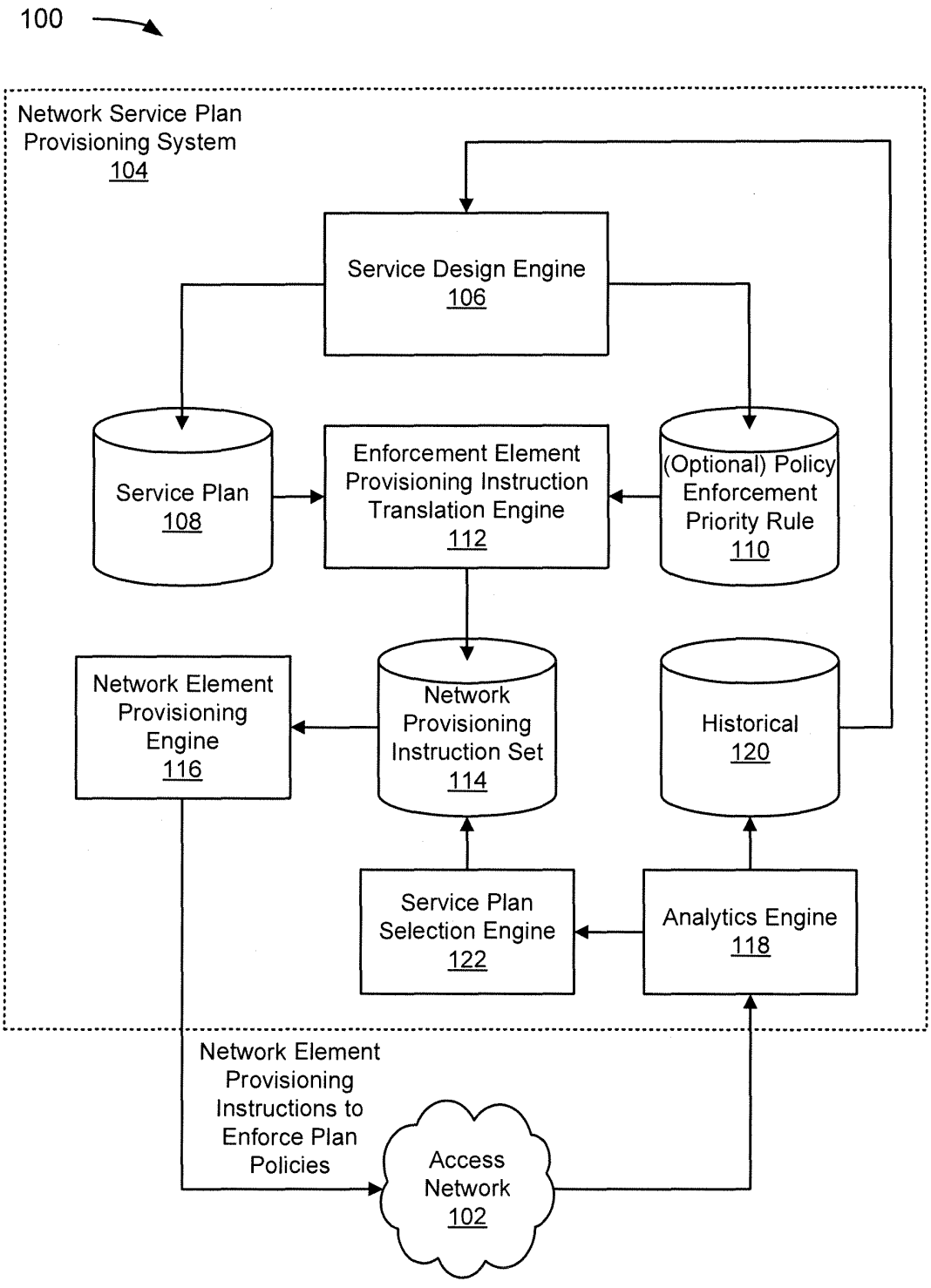

100
Network Service Plan Provisioning System 104
Service Design Engine 106
Service Plan 108
Enforcement Element Provisioning Instruction Translation Engine 112
(Optional) Policy Enforcement Priority Rule 110
Network Element Provisioning Engine 116
Network Provisioning Instruction Set 114
Historical 120
Service Plan Selection Engine 122
Analytics Engine 118
Network Element Provisioning Instructions to Enforce Plan Policies
Access Network 102

FIG. 1

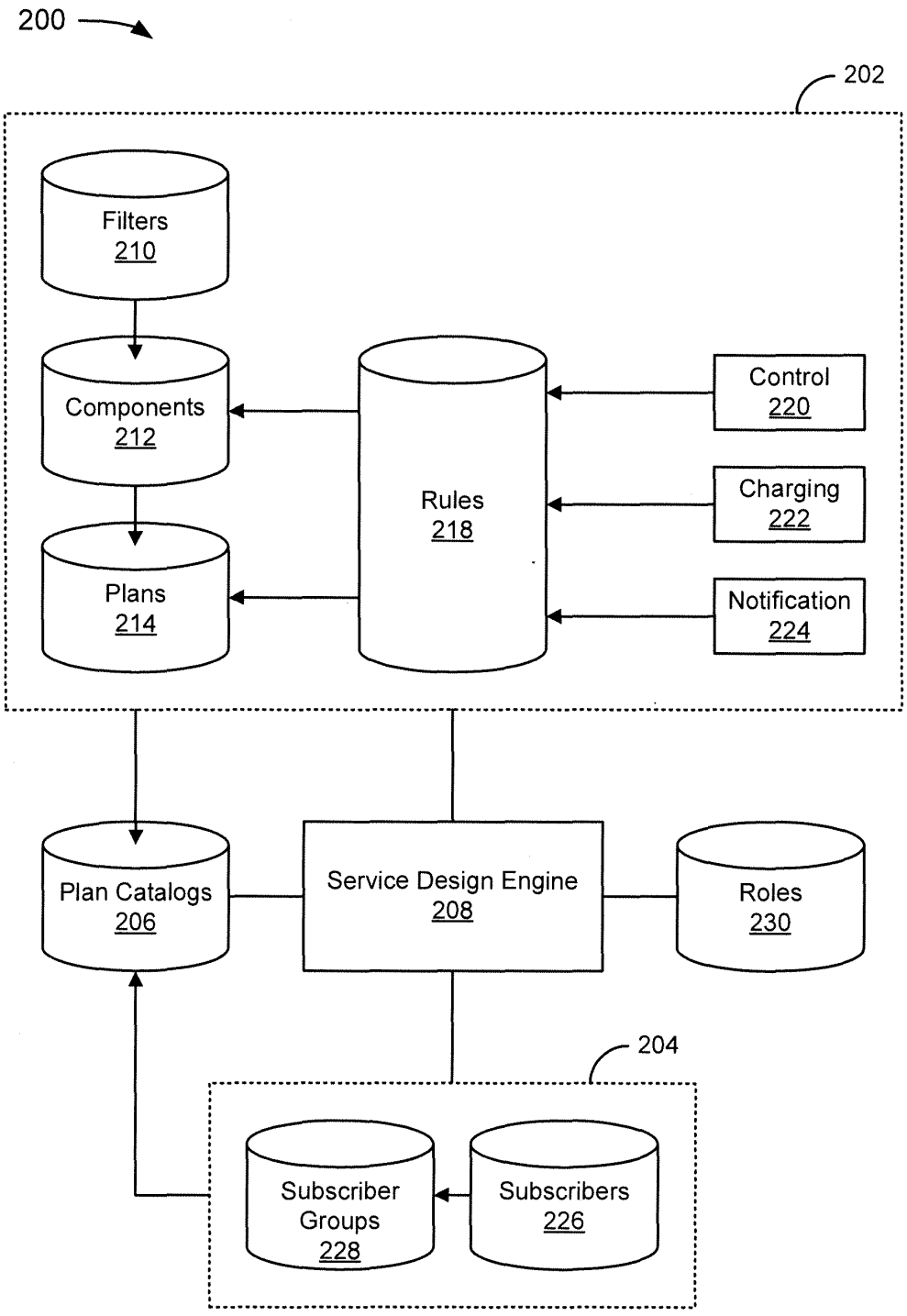

200
202
Filters
210
Components
212
Plans
214
Rules
218
Control
220
Charging
222
Notification
224
Plan Catalogs
206
Service Design Engine
208
Roles
230
204
Subscriber
Groups
228
Subscribers
226

FIG. 2

300A

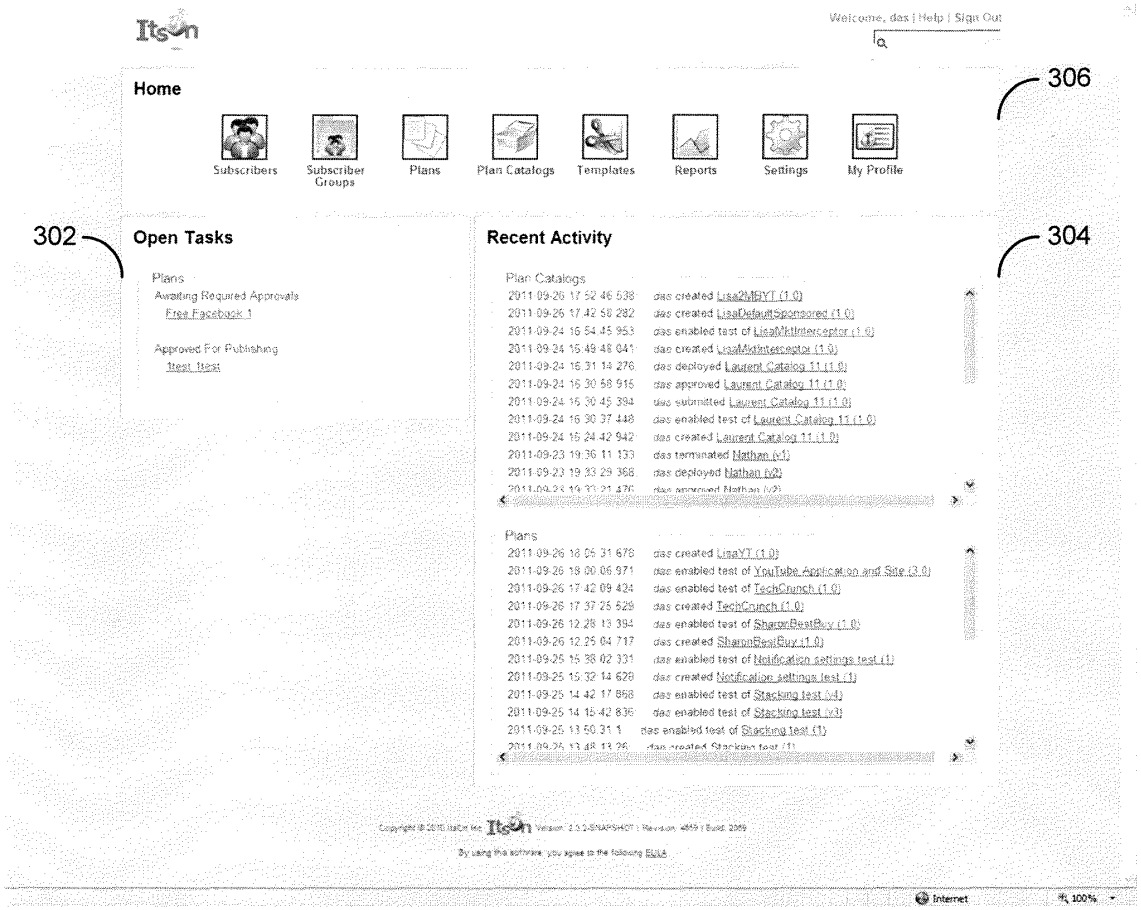

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Home
306
Subscribers
Subscriber Groups
Plans
Plan Catalogs
Templates
Reports
Settings
My Profile
302
Open Tasks
304
Recent Activity
Plans
Awaiting Required Approvals
Free Facebook 1
Approved For Publishing
Ttest Ttest
Plan Catalogs
2011-09-26 17:52:46.538 das created Lisa2MBYT (1.0)
2011-09-26 17:42:58.282 das created LisaDefaultSponsored (1.0)
2011-09-24 16:54:45.953 das enabled test of LisaMdlInterceptor (1.0)
2011-09-24 16:49:48.041 das created LisaMdlInterceptor (1.0)
2011-09-24 16:31:14.276 das deployed Laurent Catalog 11 (1.0)
2011-09-24 16:30:58.915 das approved Laurent Catalog 11 (1.0)
2011-09-24 16:30:45.394 das submitted Laurent Catalog 11 (1.0)
2011-09-24 16:30:37.448 das enabled test of Laurent Catalog 11 (1.0)
2011-09-24 16:24:42.942 das created Laurent Catalog 11 (1.0)
2011-09-23 19:36:11.133 das terminated Nathan (v1)
2011-09-23 19:33:29.368 das deployed Nathan (v2)
Plans
2011-09-26 18:05:31.678 das created LisaYT (1.0)
2011-09-26 18:00:06.971 das enabled test of YouTube Application and Site (3.0)
2011-09-26 17:42:09.424 das enabled test of TechCrunch (1.0)
2011-09-26 17:37:25.529 das created TechCrunch (1.0)
2011-09-26 12:28:13.394 das enabled test of SharonBestBuy (1.0)
2011-09-26 12:25:04.717 das created SharonBestBuy (1.0)
2011-09-25 15:38:02.331 das enabled test of Notification settings test (1)
2011-09-25 15:32:14.629 das created Notification settings test (1)
2011-09-25 14:42:17.868 das enabled test of Stacking test (v4)
2011-09-25 14:15:42.836 das enabled test of Stacking test (v3)
2011-09-25 13:50:31.1 das enabled test of Stacking test (1)
By using this software you agree to the following EULA
Internet
100%

FIG. 3A

300B

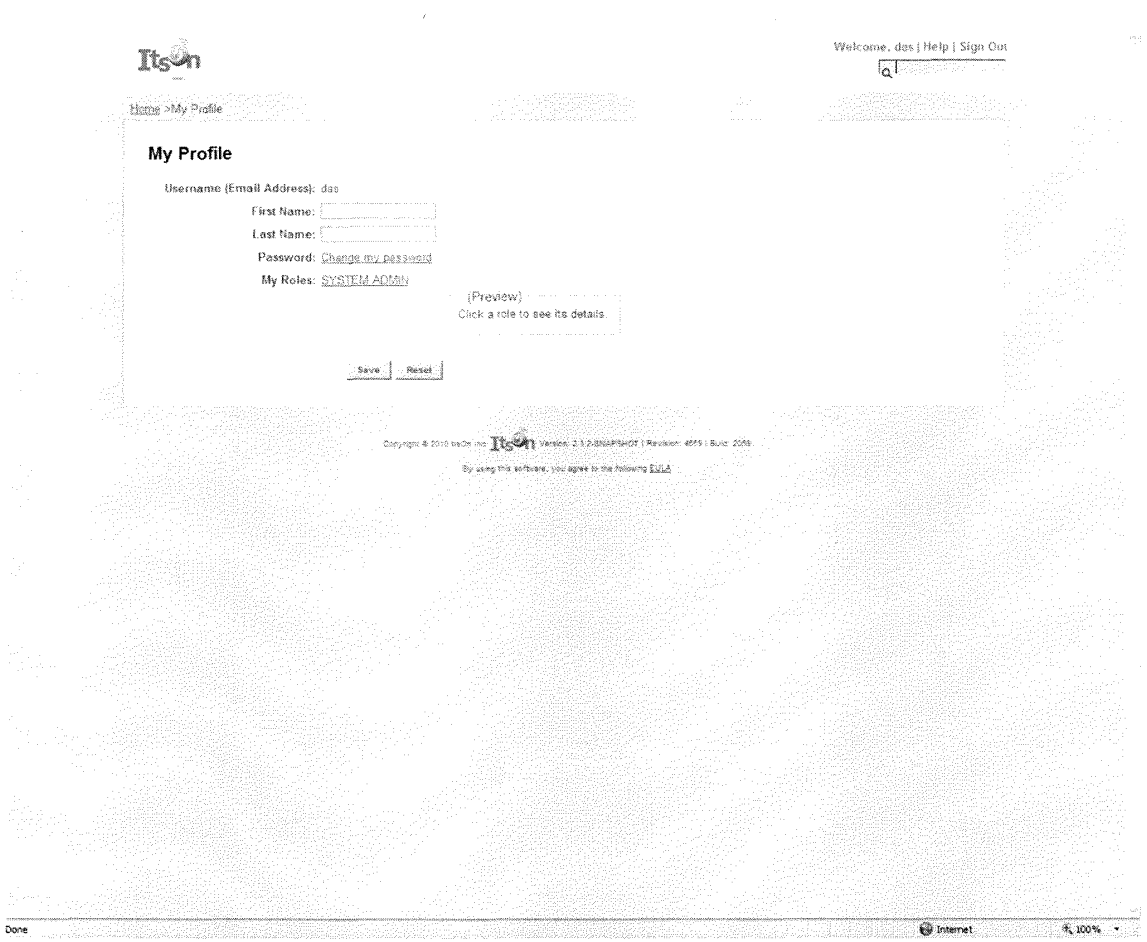

Welcome, das | Help | Sign Out
Home >My Profile
My Profile
Username (Email Address): das
First Name:
Last Name:
Password: Change my password
My Roles: SYSTEM ADMIN
[Preview]
Click a role to see its details.
Save
Reset
By using this software, you agree to the following EULA
Done
Internet
100%

FIG. 3B

300C

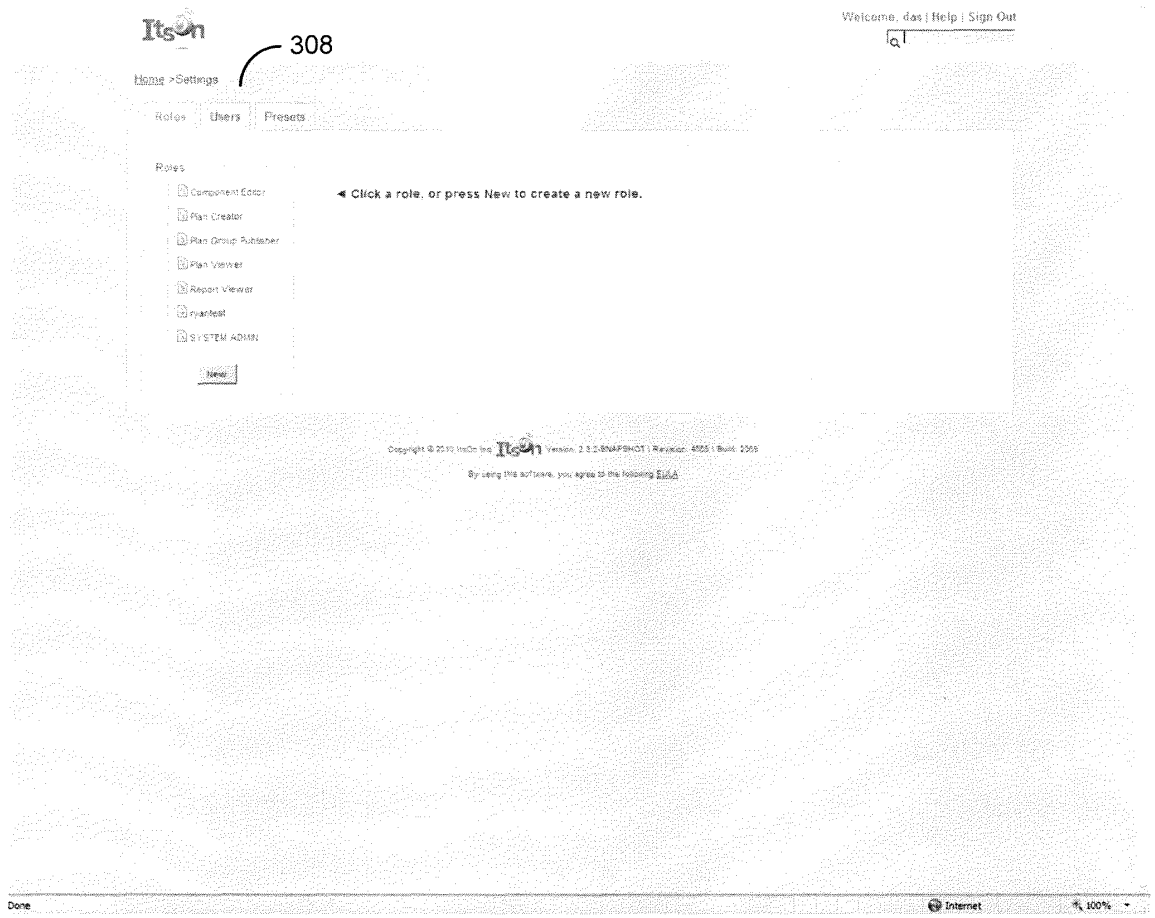

308
Welcome, das | Help | Sign Out
Home >Settings
Roles
Users
Presets
Roles
Component Editor
Plan Creator
Plan Group Publisher
Plan Viewer
Report Viewer
ryantest
SYSTEM ADMIN
New
◄ Click a role, or press New to create a new role.
By using this software, you agree to the following EULA
Done
Internet
100%

FIG. 3C

300D

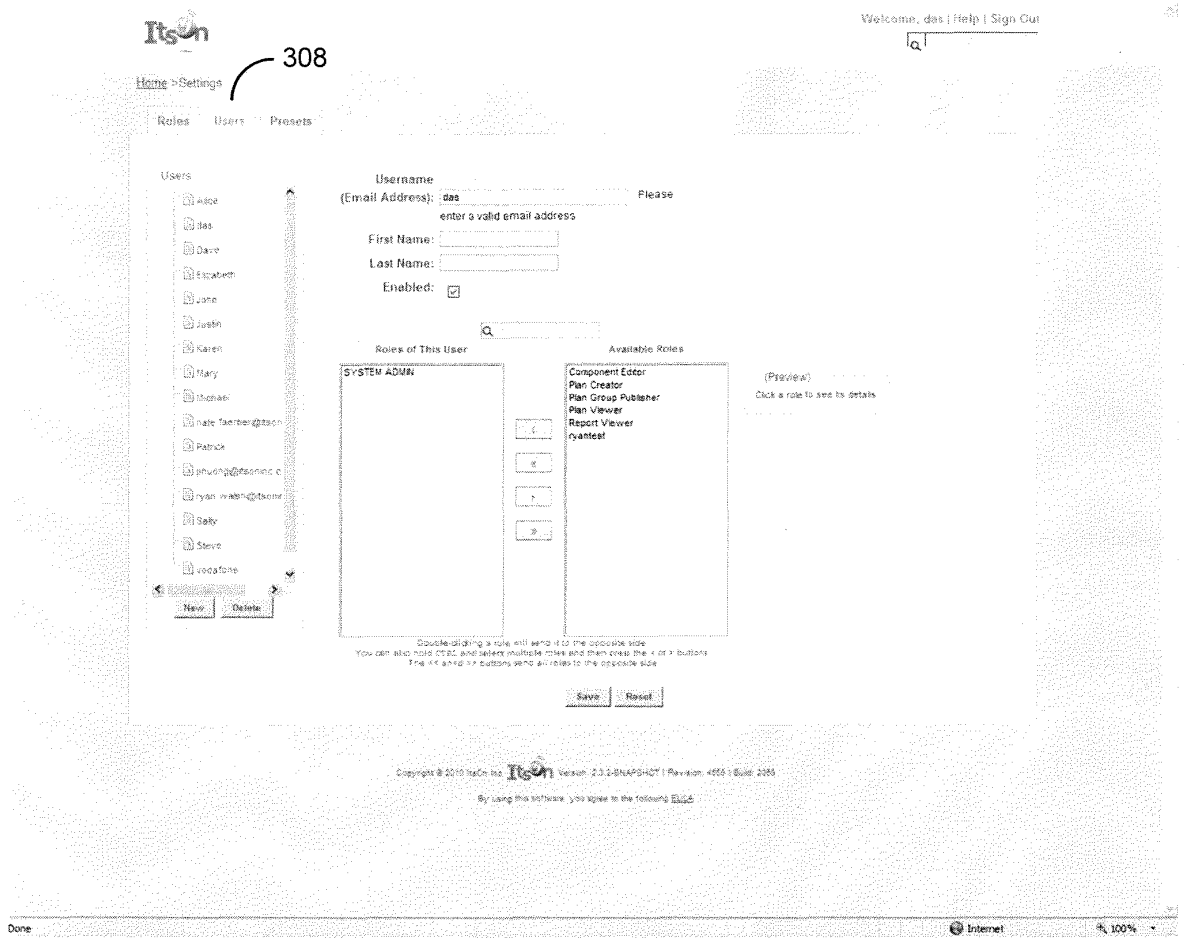


FIG. 3D

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300E



FIG. 3E

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300F

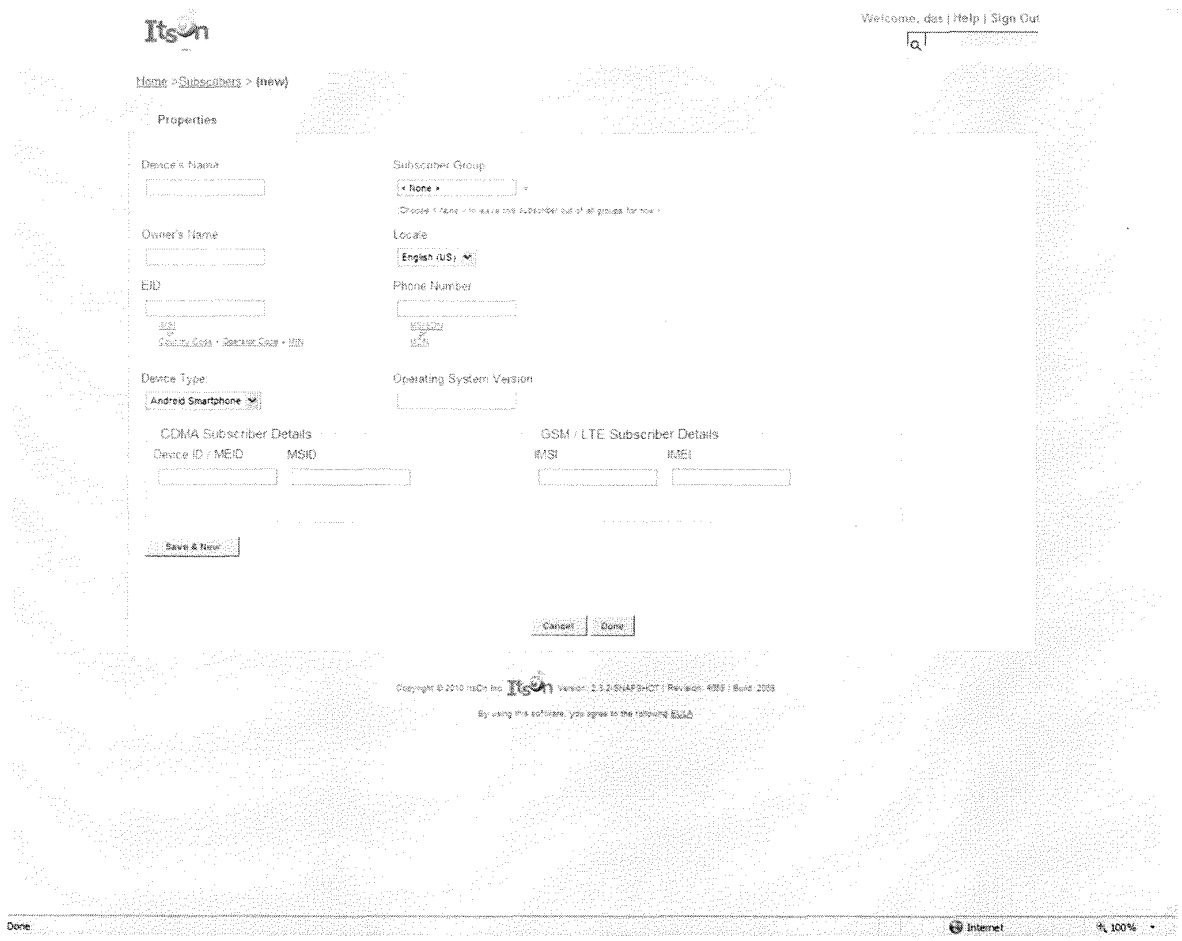


FIG. 3F

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300G

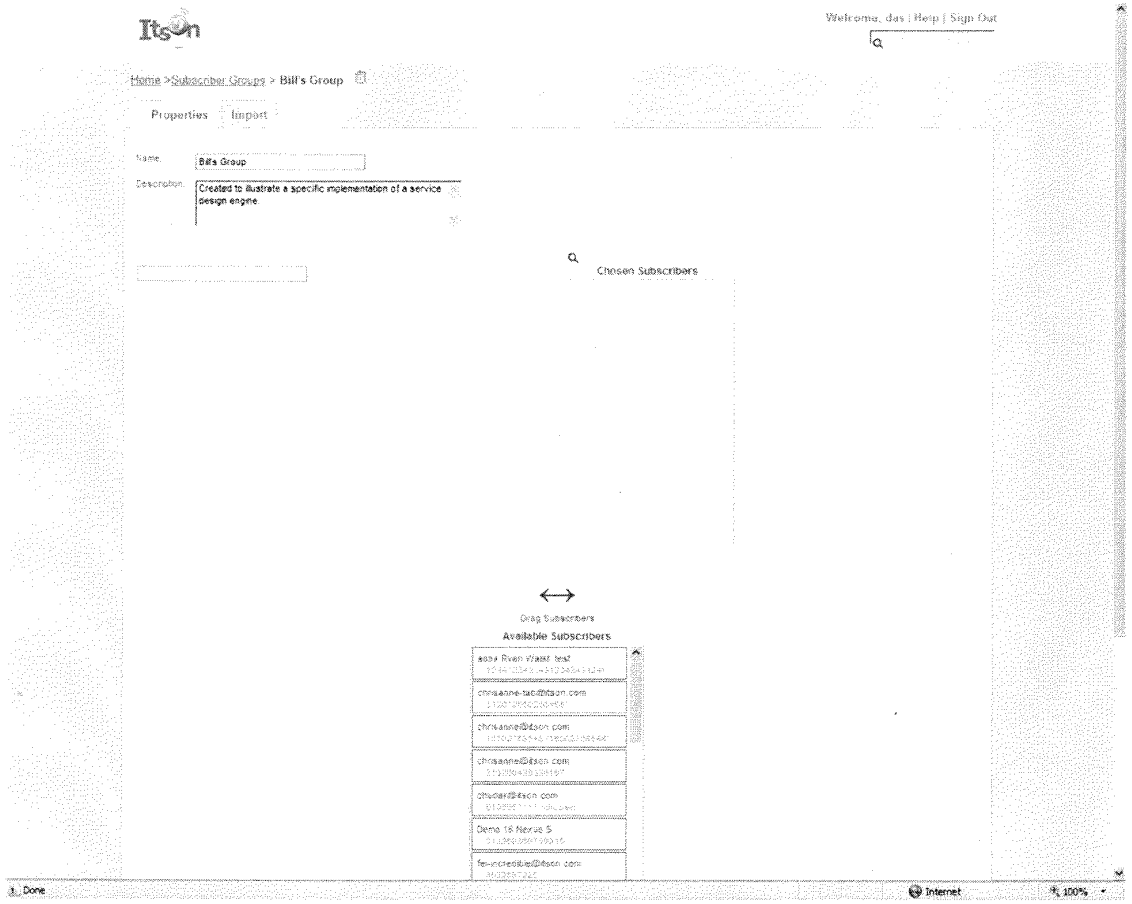


FIG. 3G

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300H

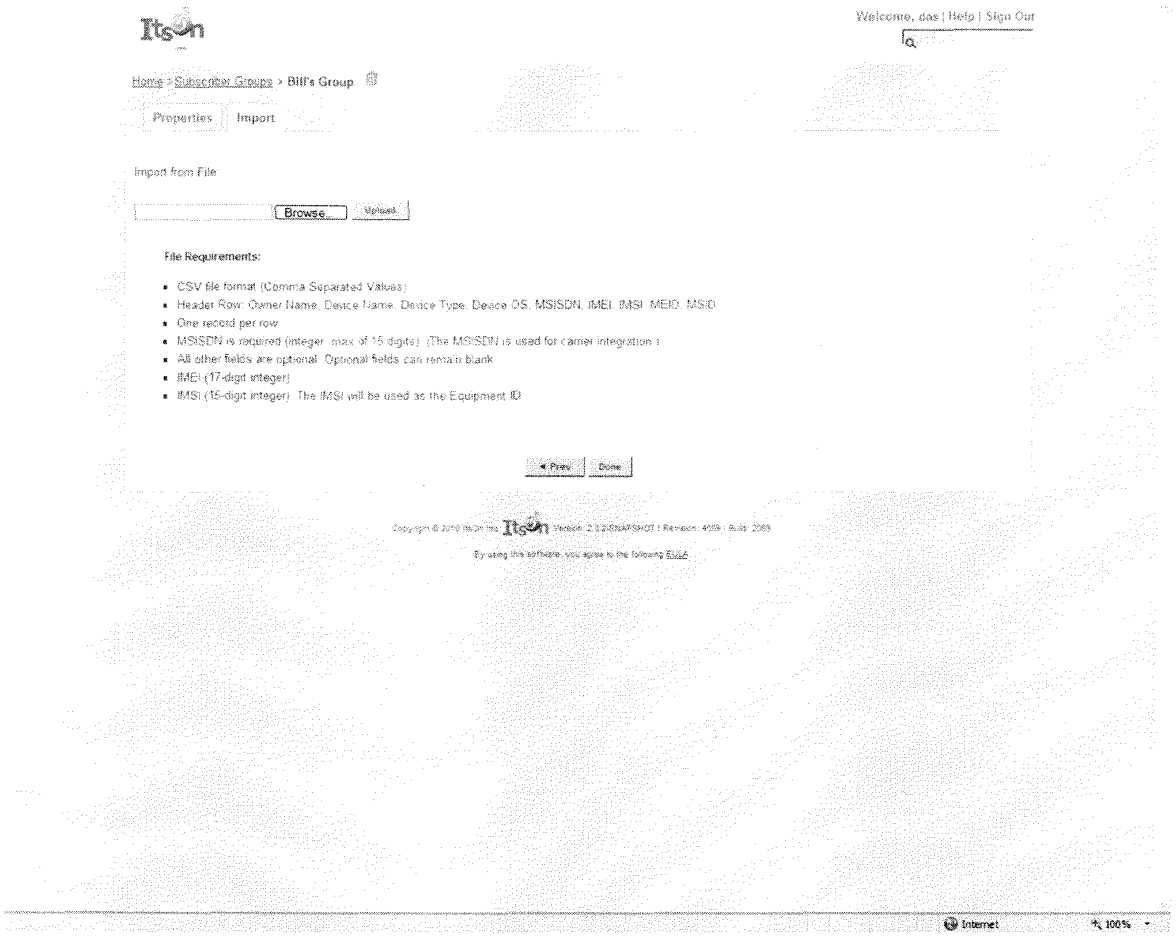


FIG. 3H

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300I

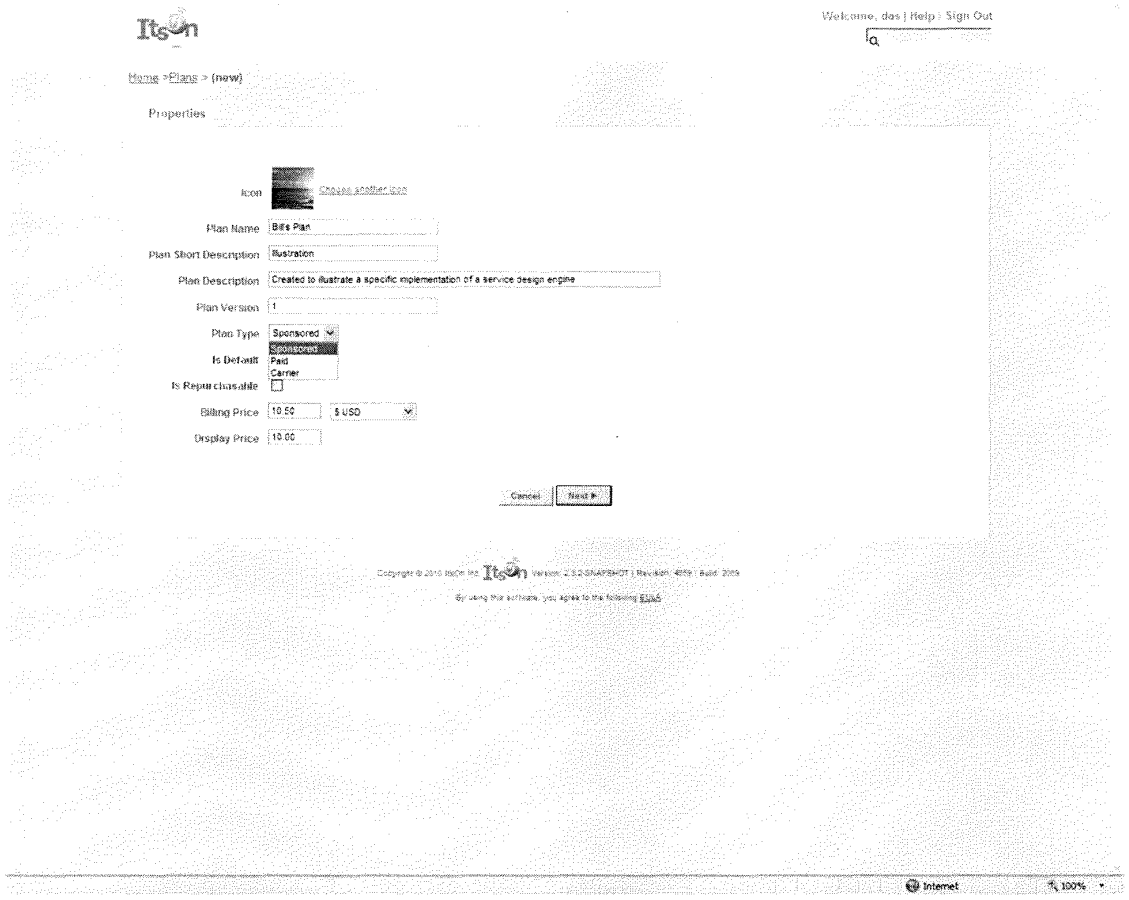


FIG. 3I

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300J

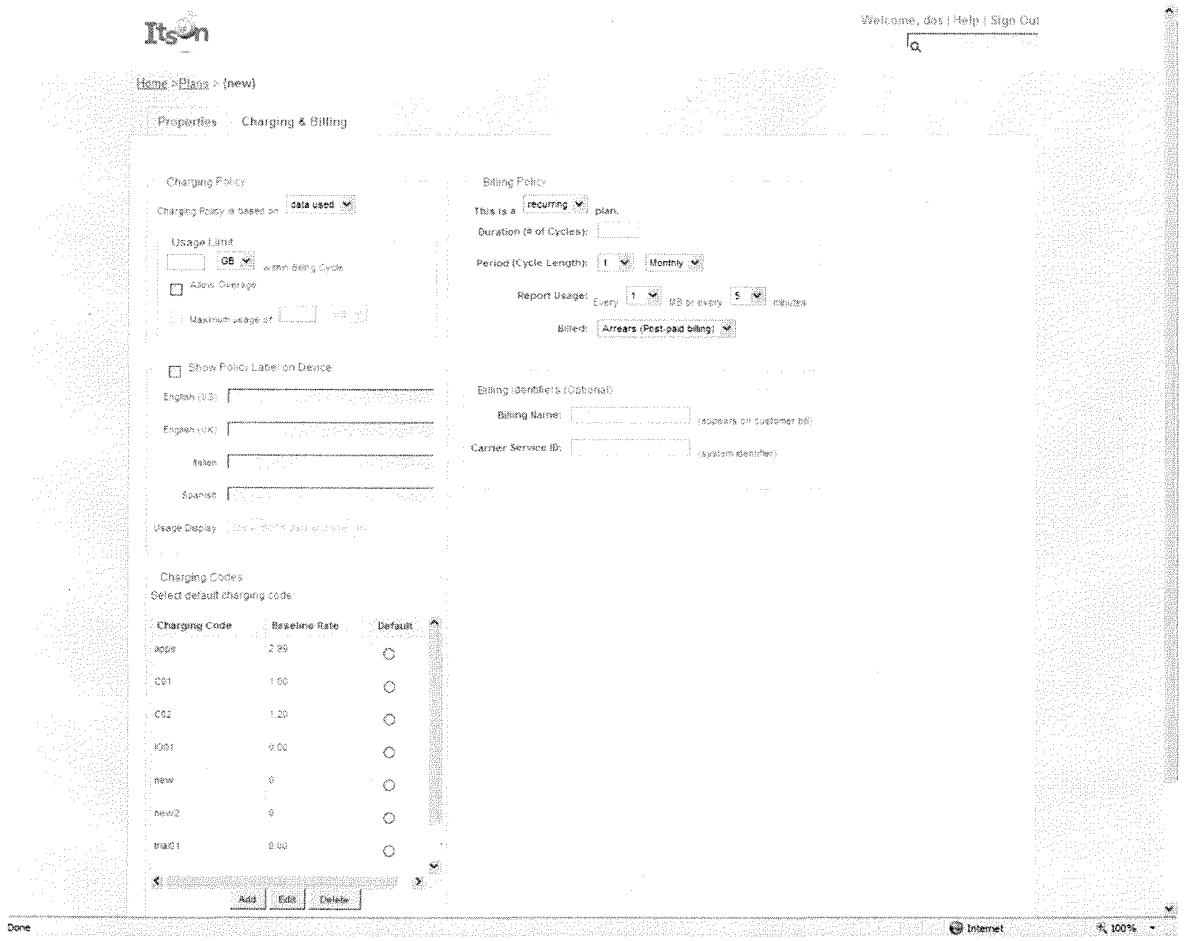


FIG. 3J

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300K

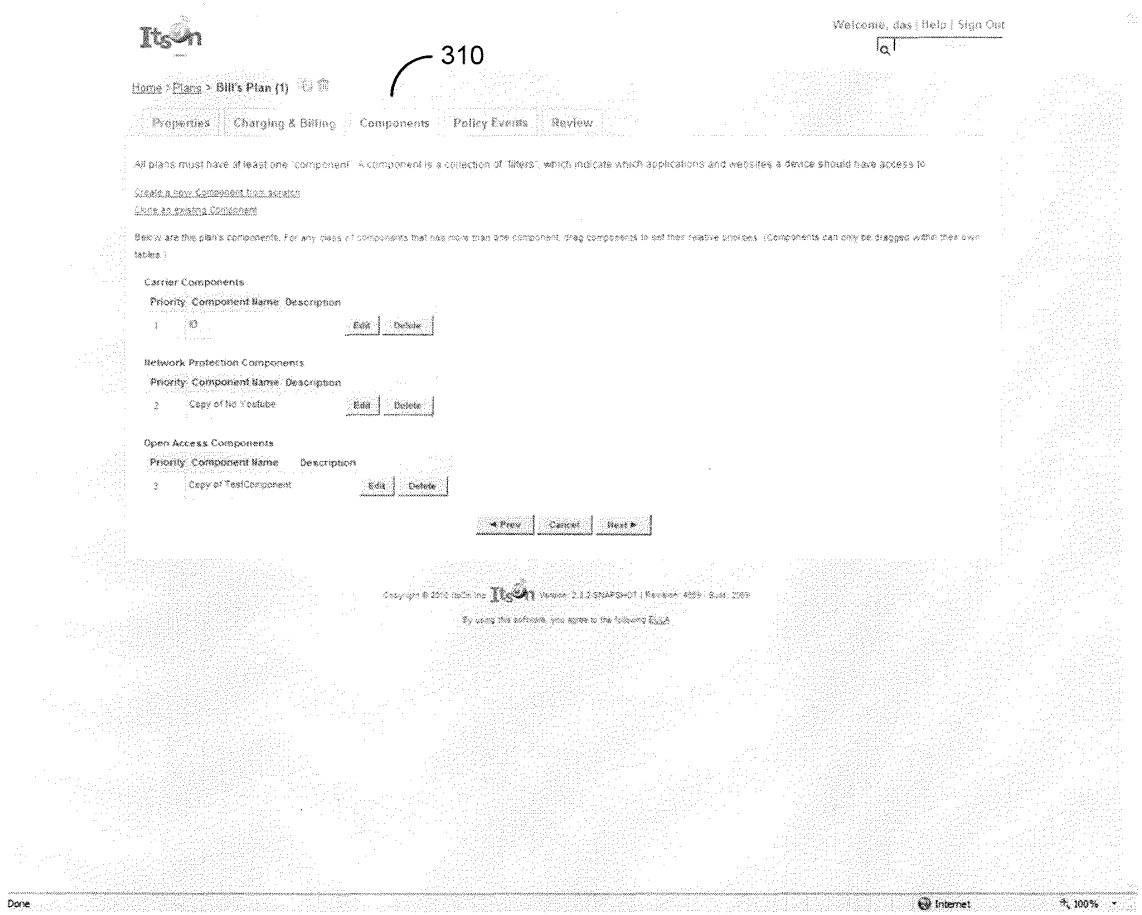

310
Welcome, das | Help | Sign Out
Home > Plans > Bill's Plan (1)
Properties
Charging & Billing
Components
Policy Events
Review
All plans must have at least one "component". A component is a collection of "filters", which indicate which applications and websites a device should have access to
Create a new Component from scratch
Clone an existing Component
Below are the plan's components. For any class of components that has more than one component, drag components to set their relative priorities. (Components can only be dragged within their own tables.)
Carrier Components
Priority Component Name Description
1 ID
Edit
Delete
Network Protection Components
Priority Component Name Description
2 Copy of No Youtube
Edit
Delete
Open Access Components
Priority Component Name Description
3 Copy of TestComponent
Edit
Delete
◄ Prev
Cancel
Next ►
Done
Internet
100%

FIG. 3K

300L

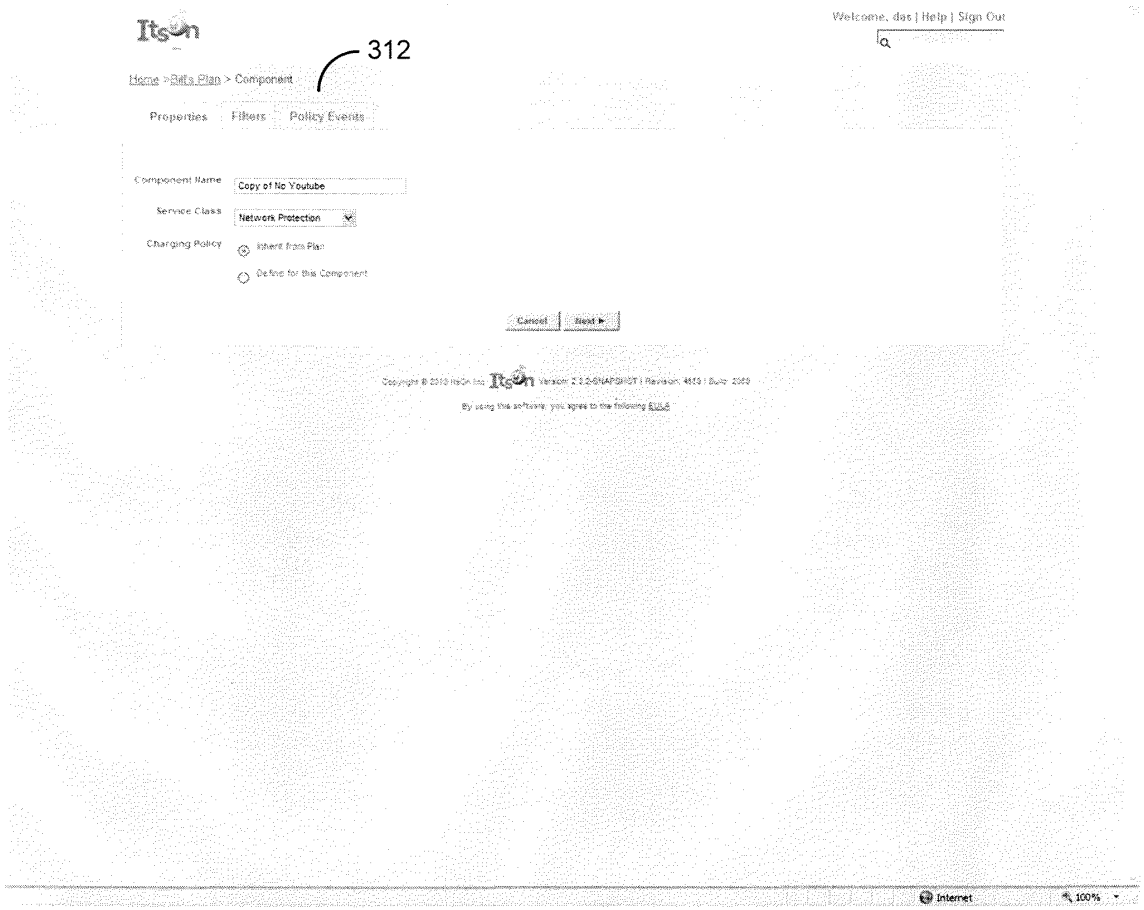

312
Welcome, das | Help | Sign Out
Home > Bill's Plan > Component
Properties
Filters
Policy Events
Component Name
Copy of No Youtube
Service Class
Network Protection
Charging Policy
Inherit from Plan
Define for this Component
Cancel
Next
Internet
100%

FIG. 3L

300M


312
Welcome, das | Help | Sign Out
Home >Bill's Plan > Component
Properties
Filters
Policy Events
Components are collections of Filters. A 'filter' indicates which applications and websites a Component (and therefore a Plan) should have access to. All components must have at least one filter.
Create a new Filter from scratch
Create a Filter from a template
Below are this component's filters
Filter Name
Description
com.android.youtube
Edit
Delete
◄ Prev
Cancel
Next ►
Internet
100%

FIG. 3M

300N

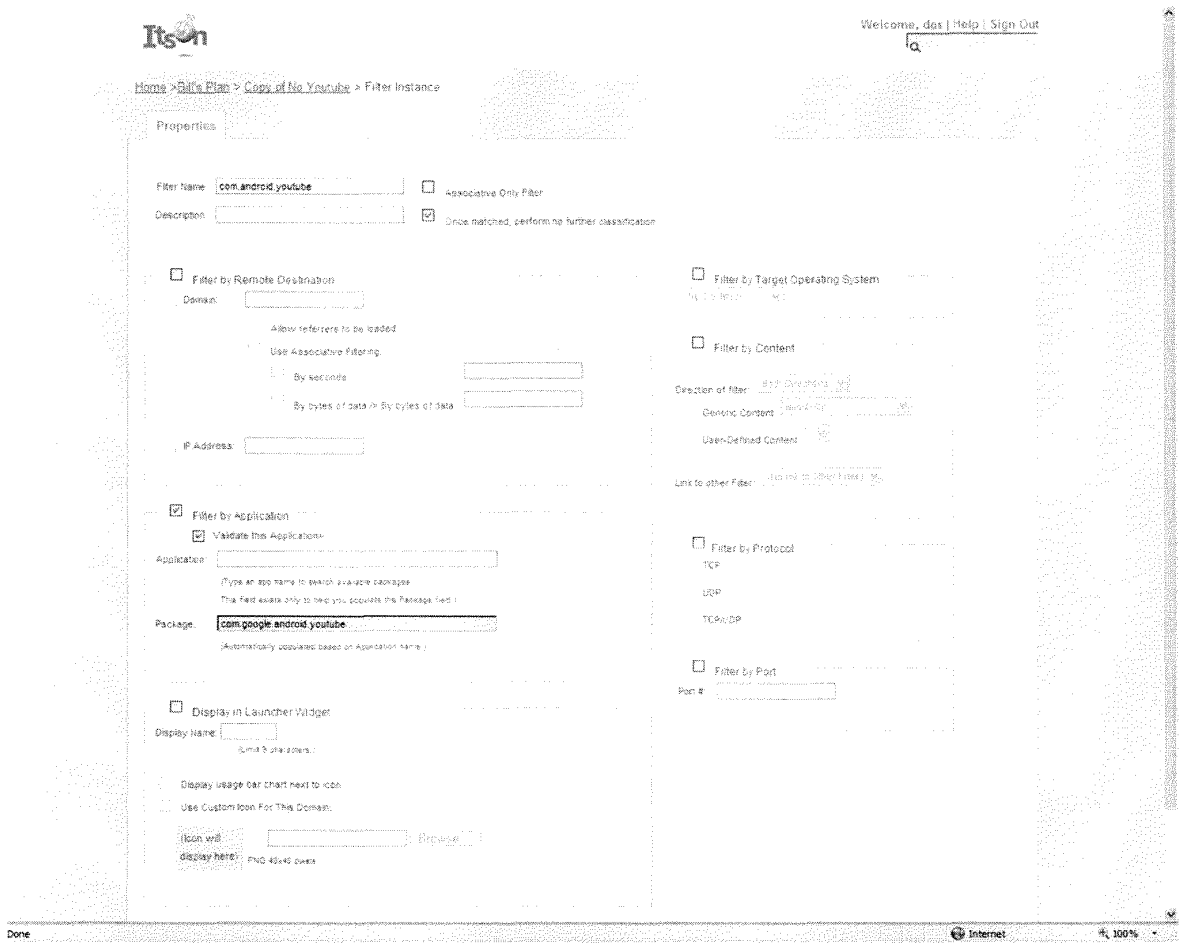


FIG. 3N

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300O

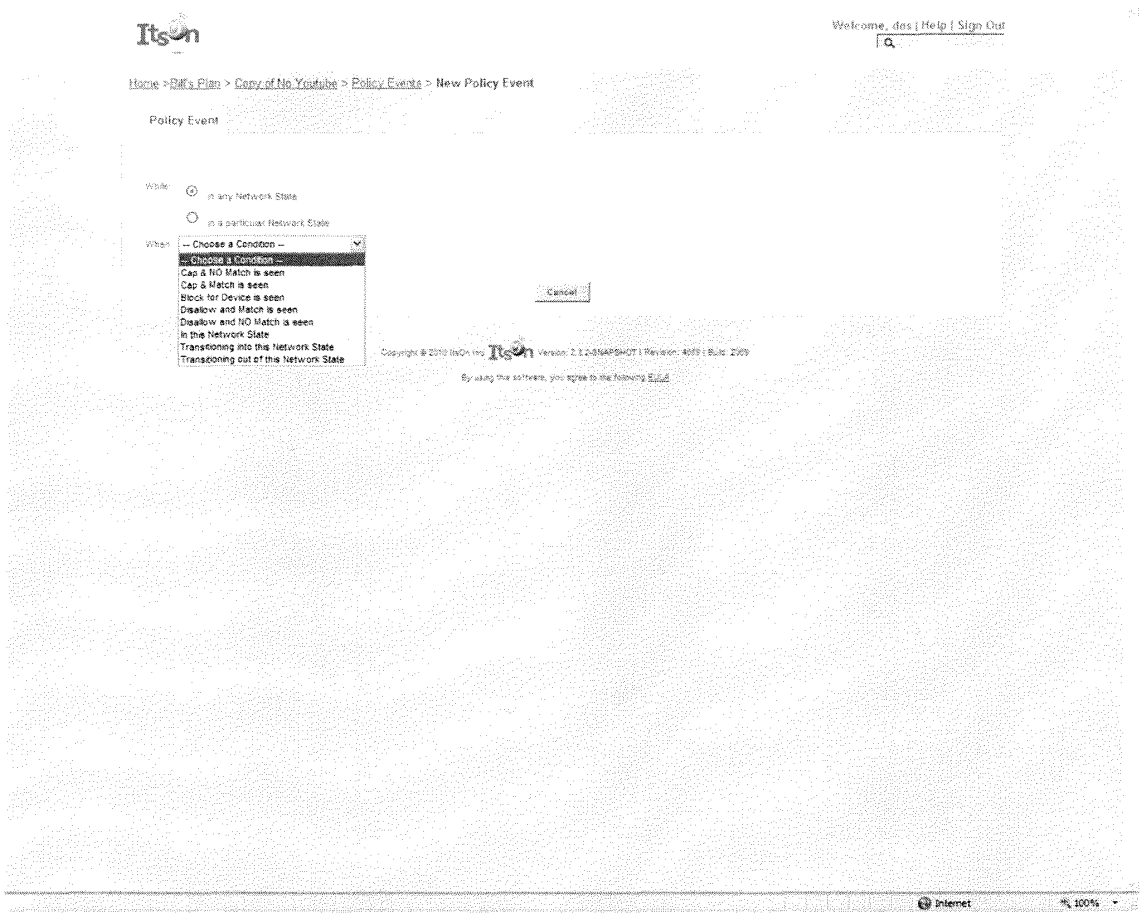

Welcome, das | Help | Sign Out
Home > Bill's Plan > Copy of No Youtube > Policy Events > New Policy Event
Policy Event
While:
in any Network State
in a particular Network State
When:
-- Choose a Condition --
-- Choose a Condition --
Cap & NO Match is seen
Cap & Match is seen
Block for Device is seen
Disallow and Match is seen
Disallow and NO Match is seen
In the Network State
Transitioning into this Network State
Transitioning out of this Network State
Cancel
Internet
100%

FIG. 3O

300P

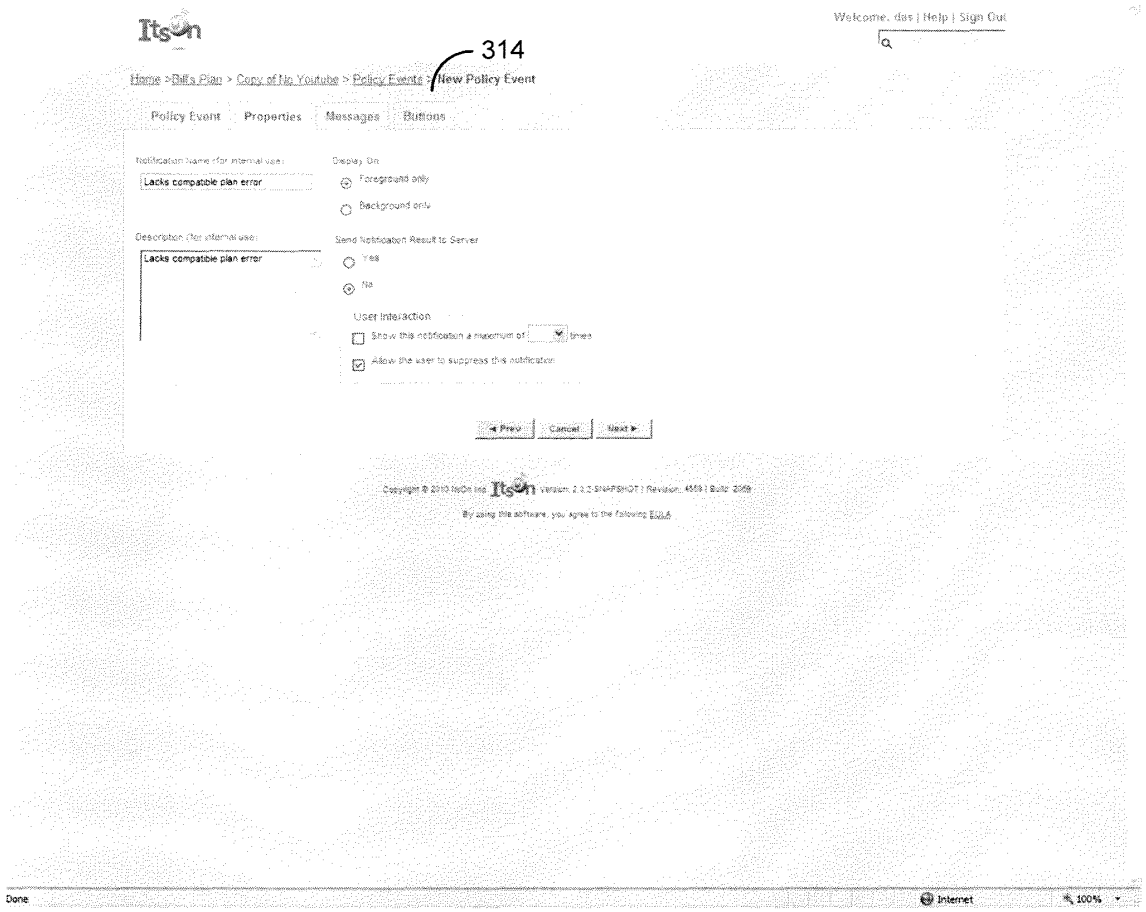

314
Welcome, das | Help | Sign Out
Home >Bill's Plan > Copy of No Youtube > Policy Events > New Policy Event
Policy Event
Properties
Messages
Buttons
Lacks compatible plan error
Display On
Foreground only
Background only
Lacks compatible plan error
Send Notification Result to Server
Yes
No
User Interaction
Show this notification a maximum of times
Allow the user to suppress this notification
Prev
Cancel
Next
By using this software, you agree to the following EULA
Done
Internet
100%

FIG. 3P

300Q

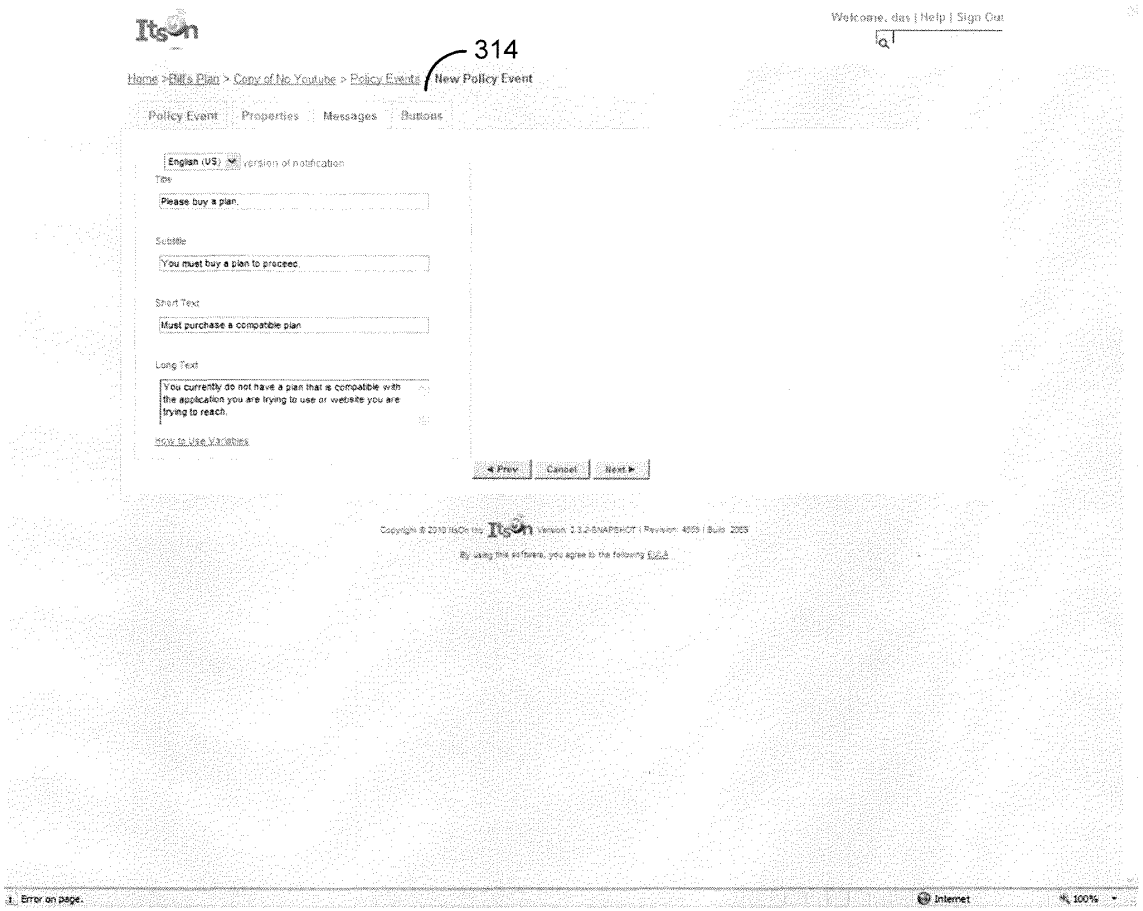

314
Welcome, das | Help | Sign Out
Home > Bill's Plan > Copy of No Youtube > Policy Events > New Policy Event
Policy Event
Properties
Messages
Buttons
English (US) version of notification
Title
Please buy a plan.
Subtitle
You must buy a plan to proceed.
Short Text
Must purchase a compatible plan
Long Text
You currently do not have a plan that is compatible with the application you are trying to use or website you are trying to reach.
How to Use Variables
◄ Prev
Cancel
Next ►
Error on page.
Internet
100%

FIG. 3Q

300R


314
316
Welcome, das | Help | Sign Out
Home > Bill's Plan > Copy of No Youtube > Policy Events > New Policy Event
Policy Event
Properties
Messages
Buttons
Choose which buttons the Subscriber will be able to press when she receives this Notification.
If you elect to display Upsell Plans, you will see only a placeholder here, as the specific Plans to be offered can only be configured at the Plan Catalog level. (See the Upsells tab of any Plan Catalog that contains this Notification.)
Display Upsell Plans
English (US) version of buttons
Select
Button Actions
View Catalog
More Info
Allow Overage (Yes/No combo)
Launch URL
Dismiss (Cancel)
As you add buttons, they appear on the phone.
Please buy a plan
You must buy a plan to proceed.
You currently do not have a plan that is compatible with the application you are trying to use or website you are trying to reach.
View Catalog
Cancel
Internet
100%

FIG. 3R

300S

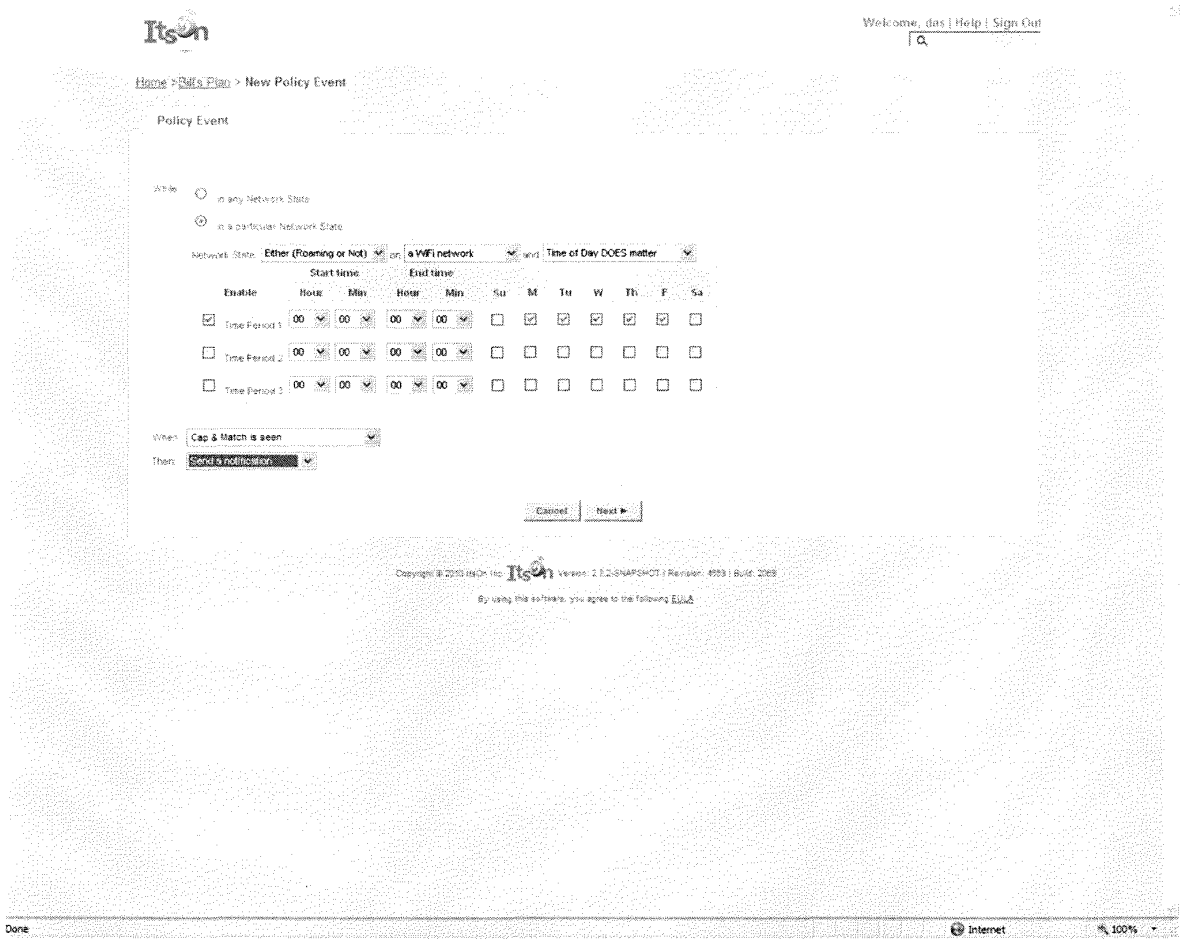


FIG. 3S

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300T

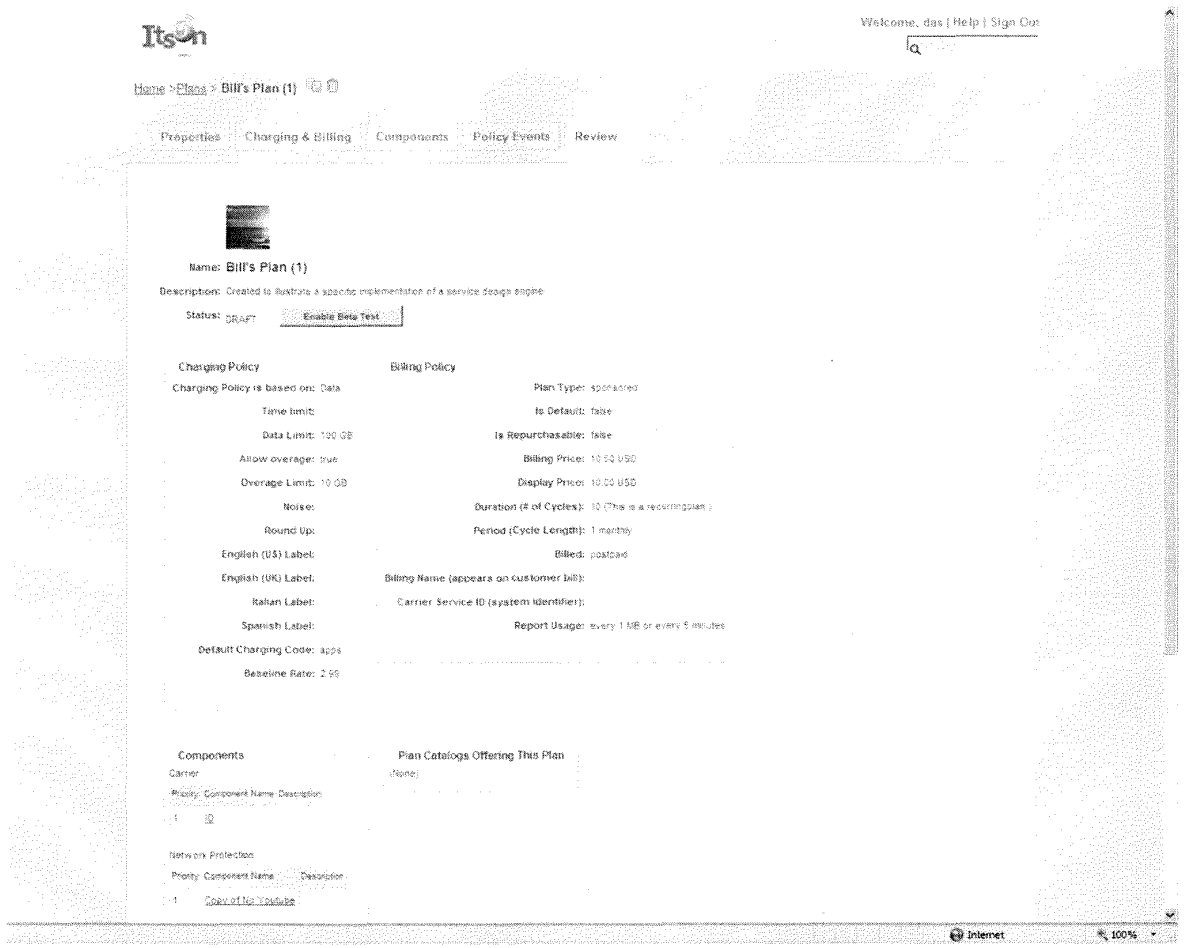


FIG. 3T

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300U



FIG. 3U

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300V

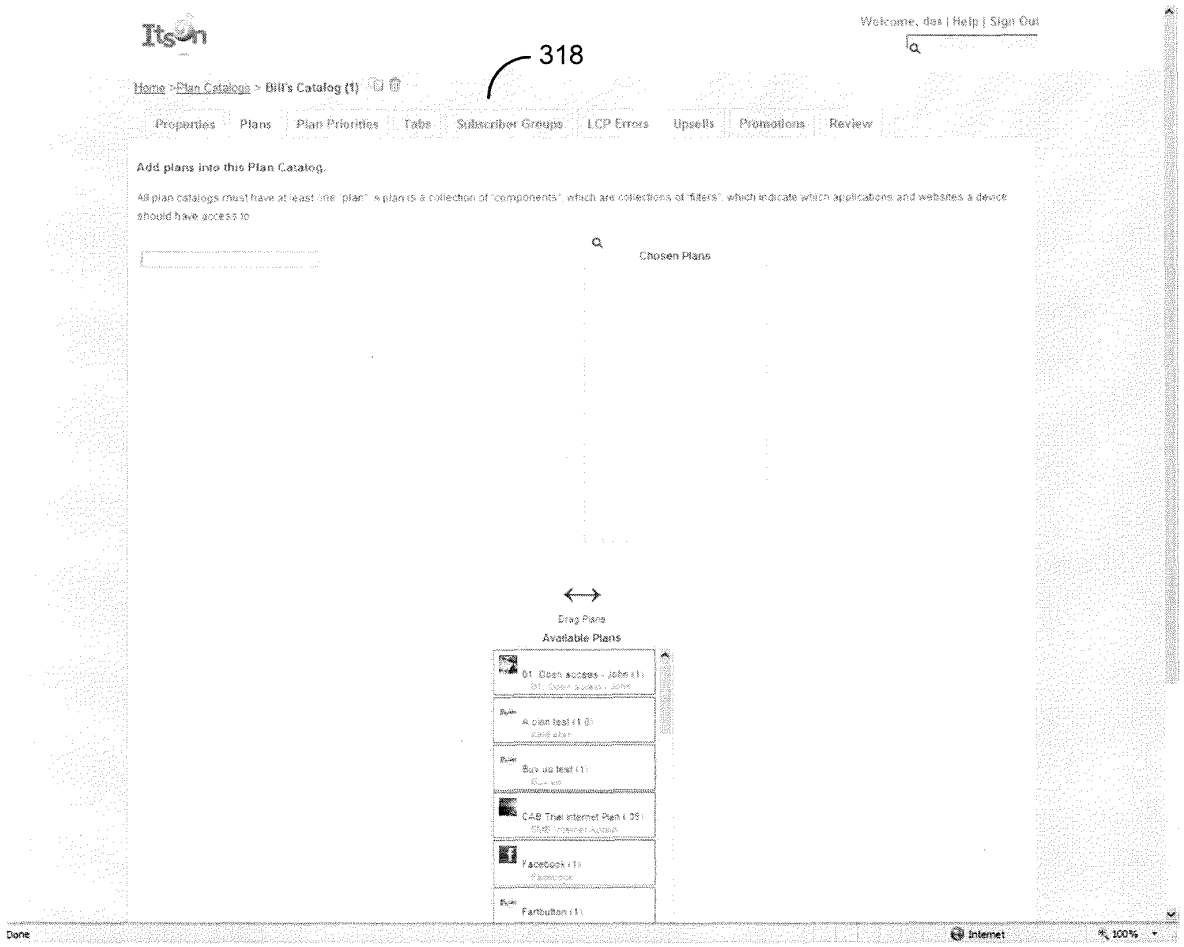


FIG. 3V

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300W

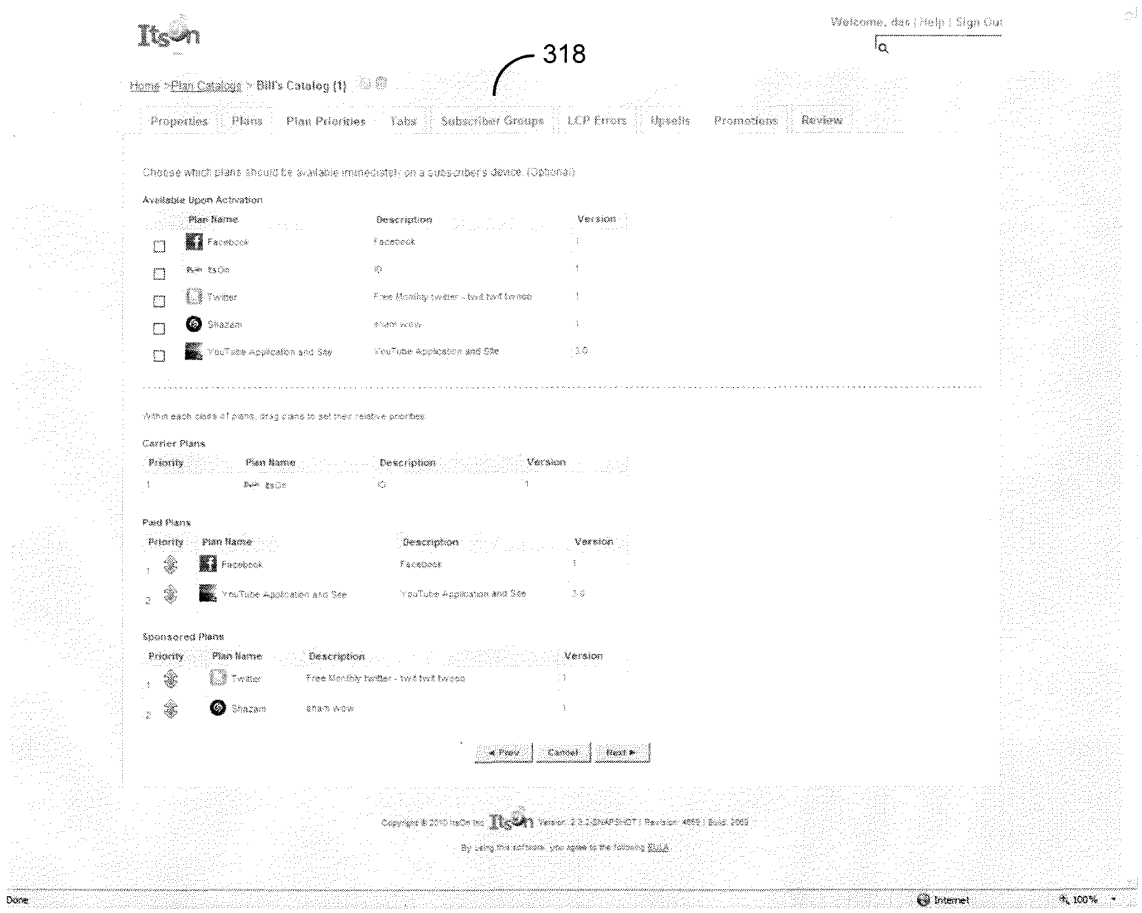

318
Welcome, das | Help | Sign Out
Home >Plan Catalogs > Bill's Catalog (1)
Properties
Plans
Plan Priorities
Tabs
Subscriber Groups
LCP Errors
Upsells
Promotions
Review
Choose which plans should be available immediately on a subscriber's device. (Optional)
Available Upon Activation
Plan Name
Description
Version
Facebook
Twitter
Shazam
YouTube Application and Site
Within each class of plans, drag plans to set their relative priorities.
Carrier Plans
Priority
Plan Name
Description
Version
Paid Plans
Sponsored Plans
Free Monthly twitter - twit twit twapp
shazam wow
< Prev
Cancel
Next >

FIG. 3W

300X

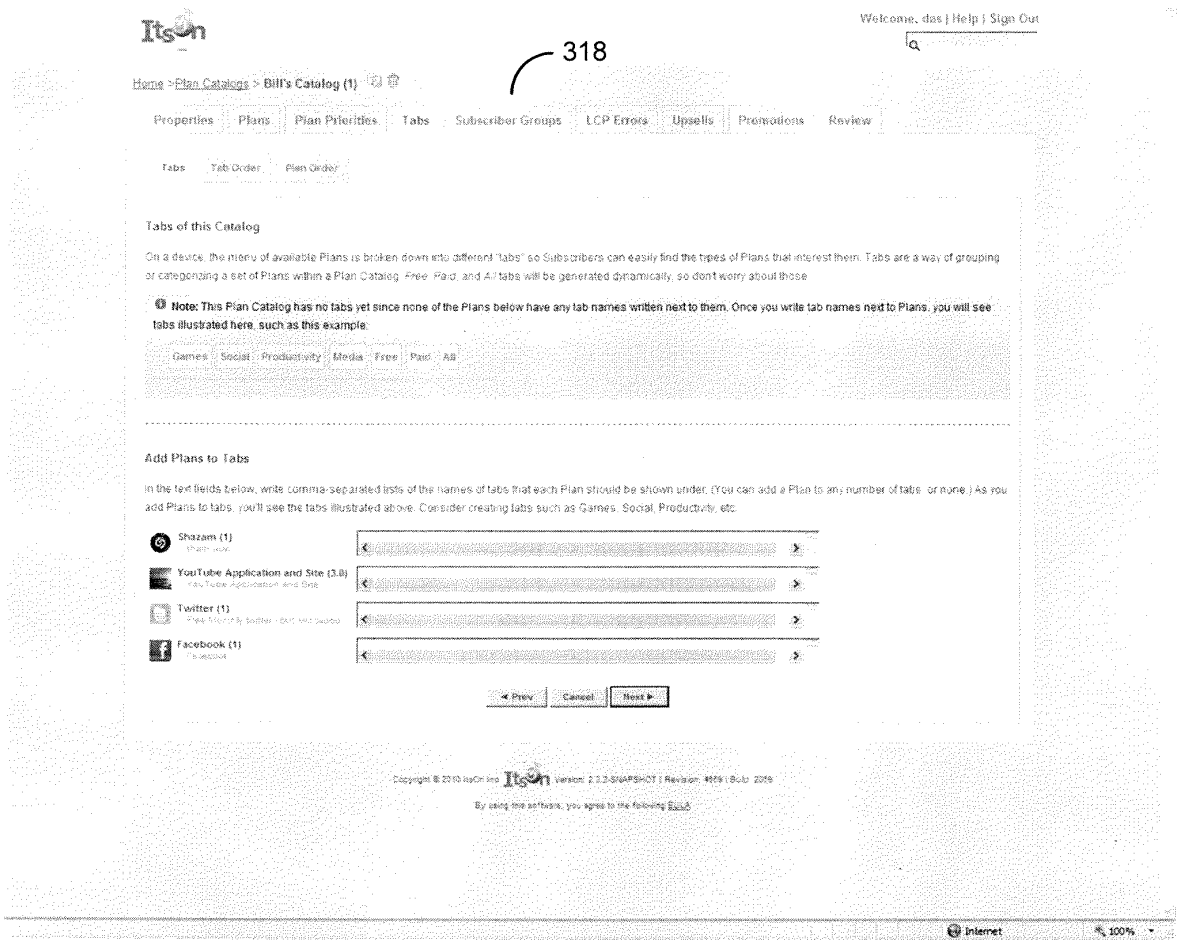


FIG. 3X

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300Y



FIG. 3Y

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300Z

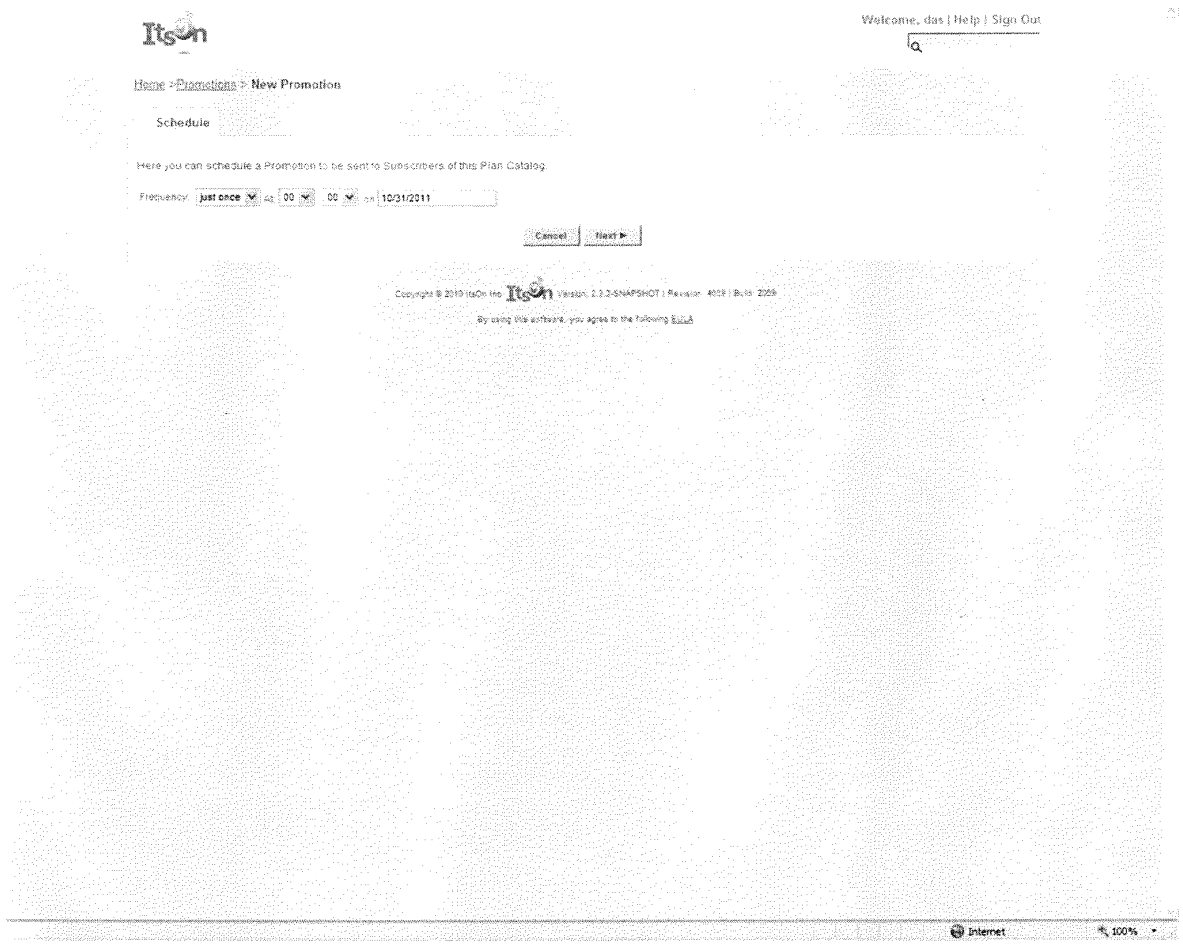


FIG. 3Z

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300AA

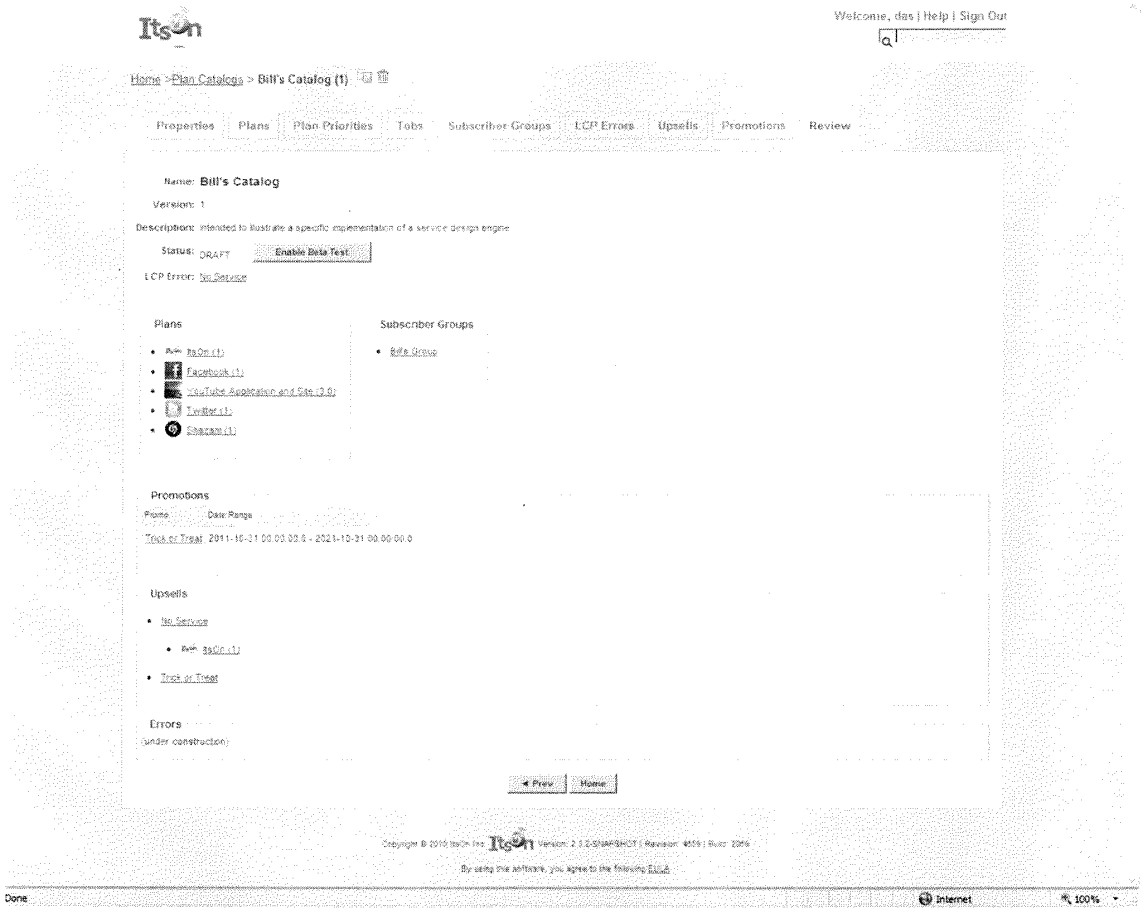


FIG. 3AA

300AB

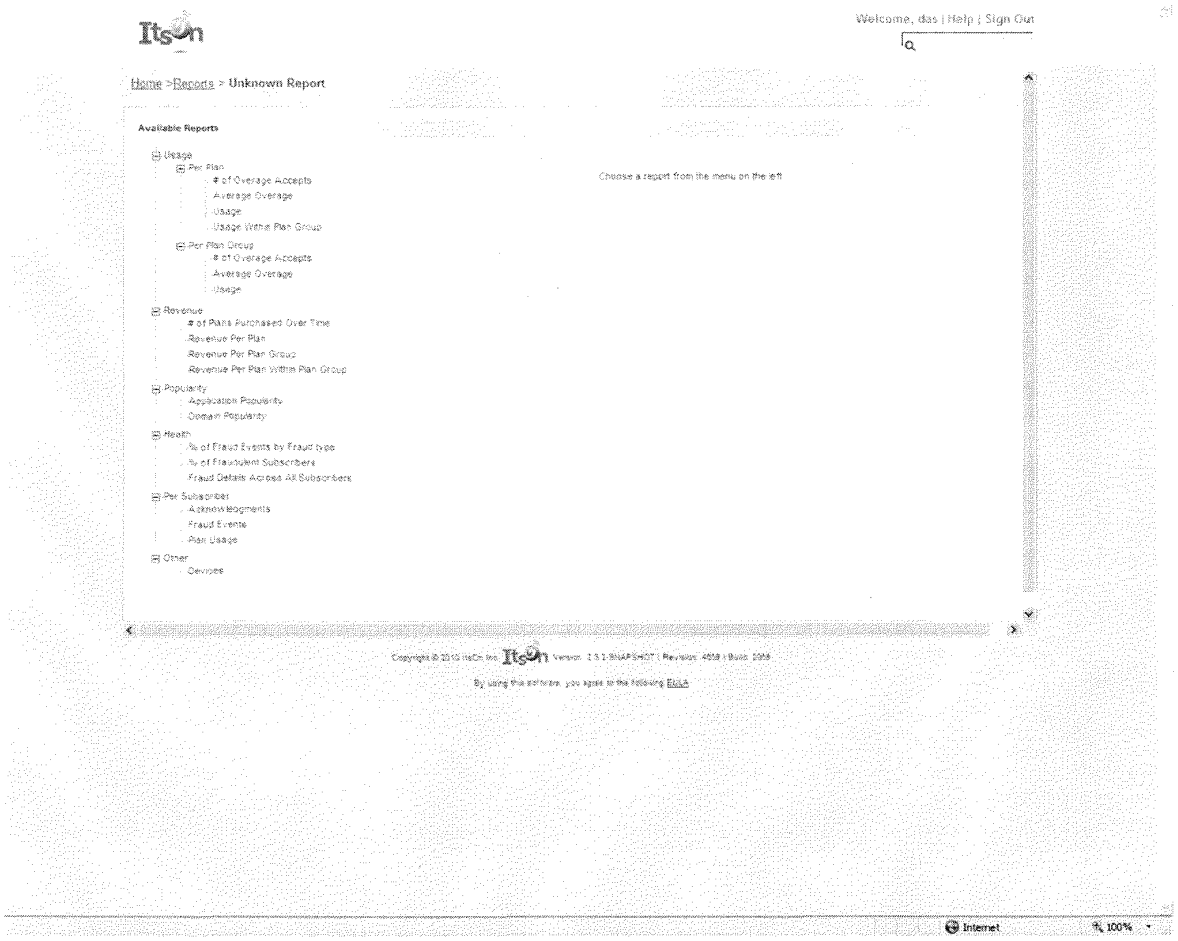


FIG. 3AB

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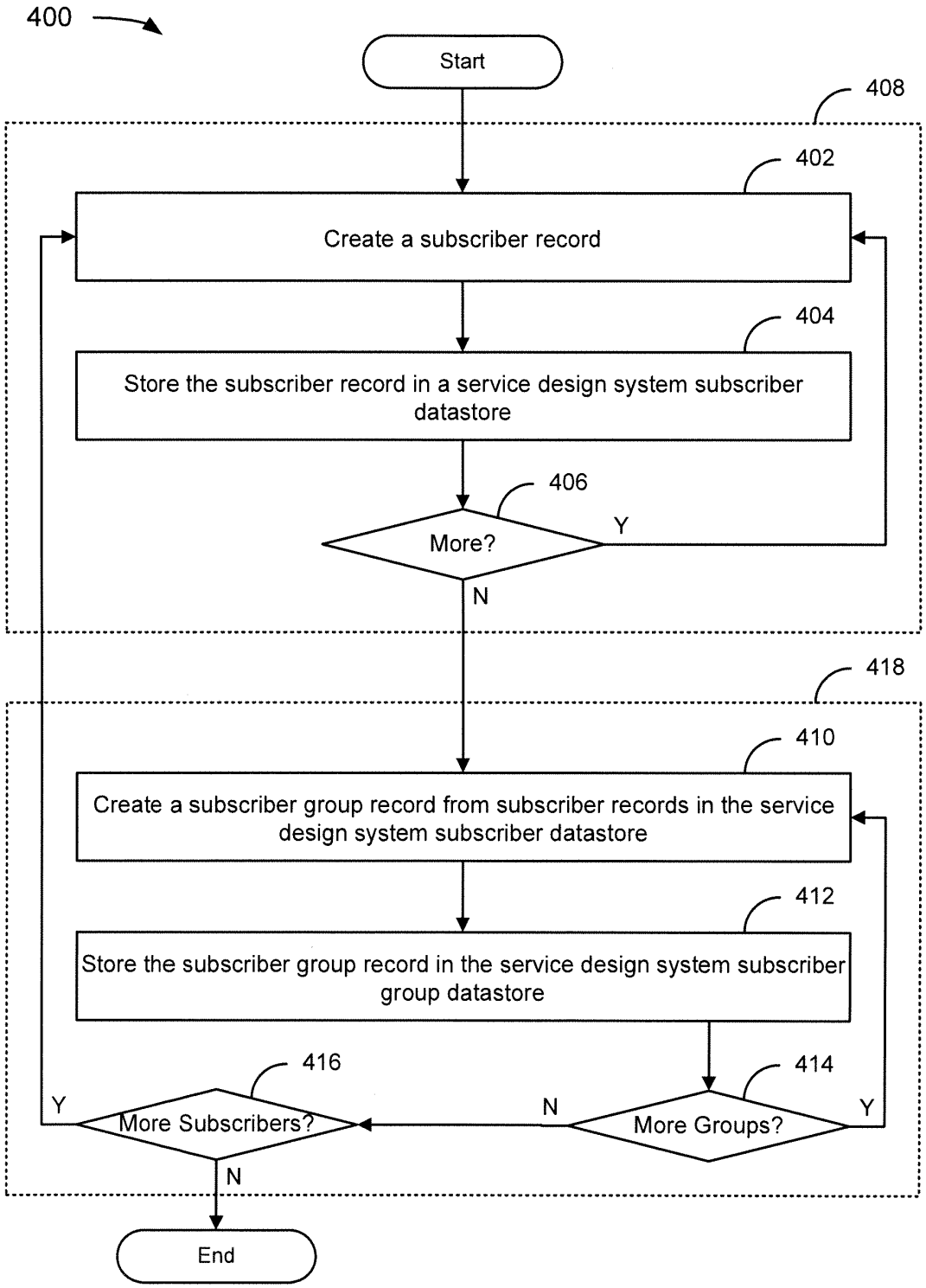

400
Start
408
402
Create a subscriber record
404
Store the subscriber record in a service design system subscriber datastore
406
More?
Y
N
418
410
Create a subscriber group record from subscriber records in the service design system subscriber datastore
412
Store the subscriber group record in the service design system subscriber group datastore
416
414
Y
More Subscribers?
N
More Groups?
Y
N
End

FIG. 4

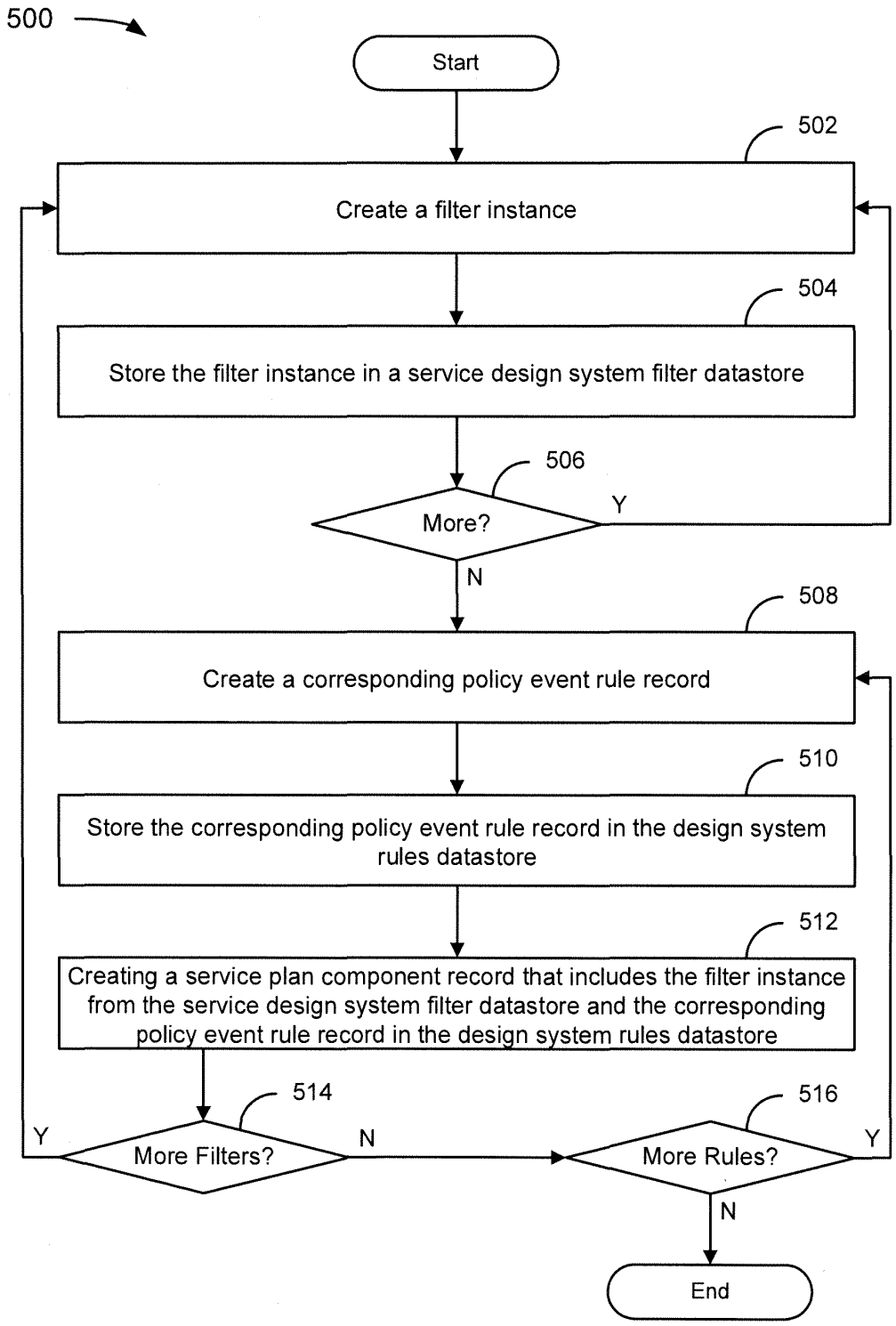

500
Start
502
Create a filter instance
504
Store the filter instance in a service design system filter datastore
506
More?
Y
N
508
Create a corresponding policy event rule record
510
Store the corresponding policy event rule record in the design system rules datastore
512
Creating a service plan component record that includes the filter instance from the service design system filter datastore and the corresponding policy event rule record in the design system rules datastore
514
More Filters?
Y
N
516
More Rules?
Y
N
End

FIG. 5

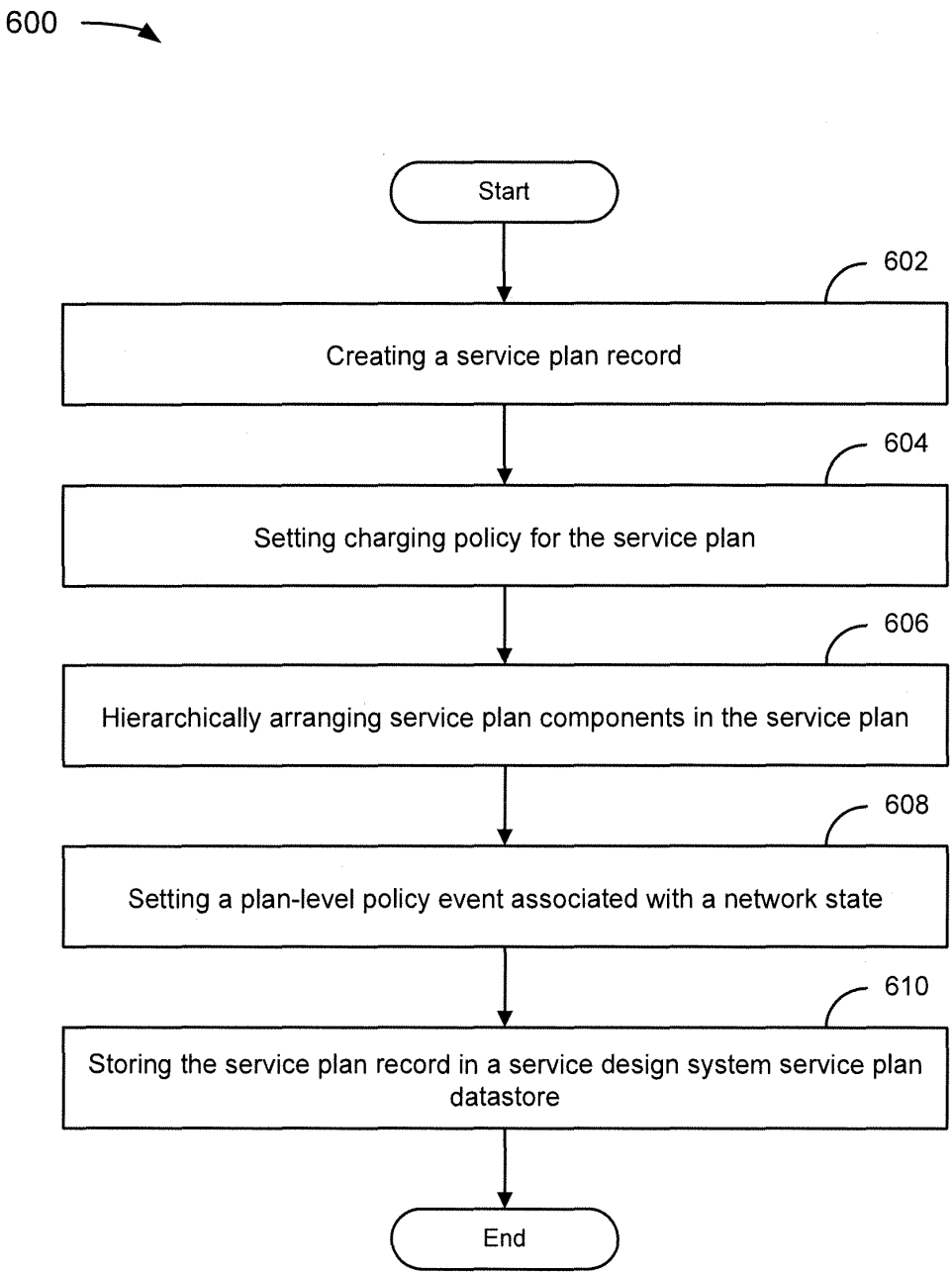

600
Start
602
Creating a service plan record
604
Setting charging policy for the service plan
606
Hierarchically arranging service plan components in the service plan
608
Setting a plan-level policy event associated with a network state
610
Storing the service plan record in a service design system service plan datastore
End

FIG. 6

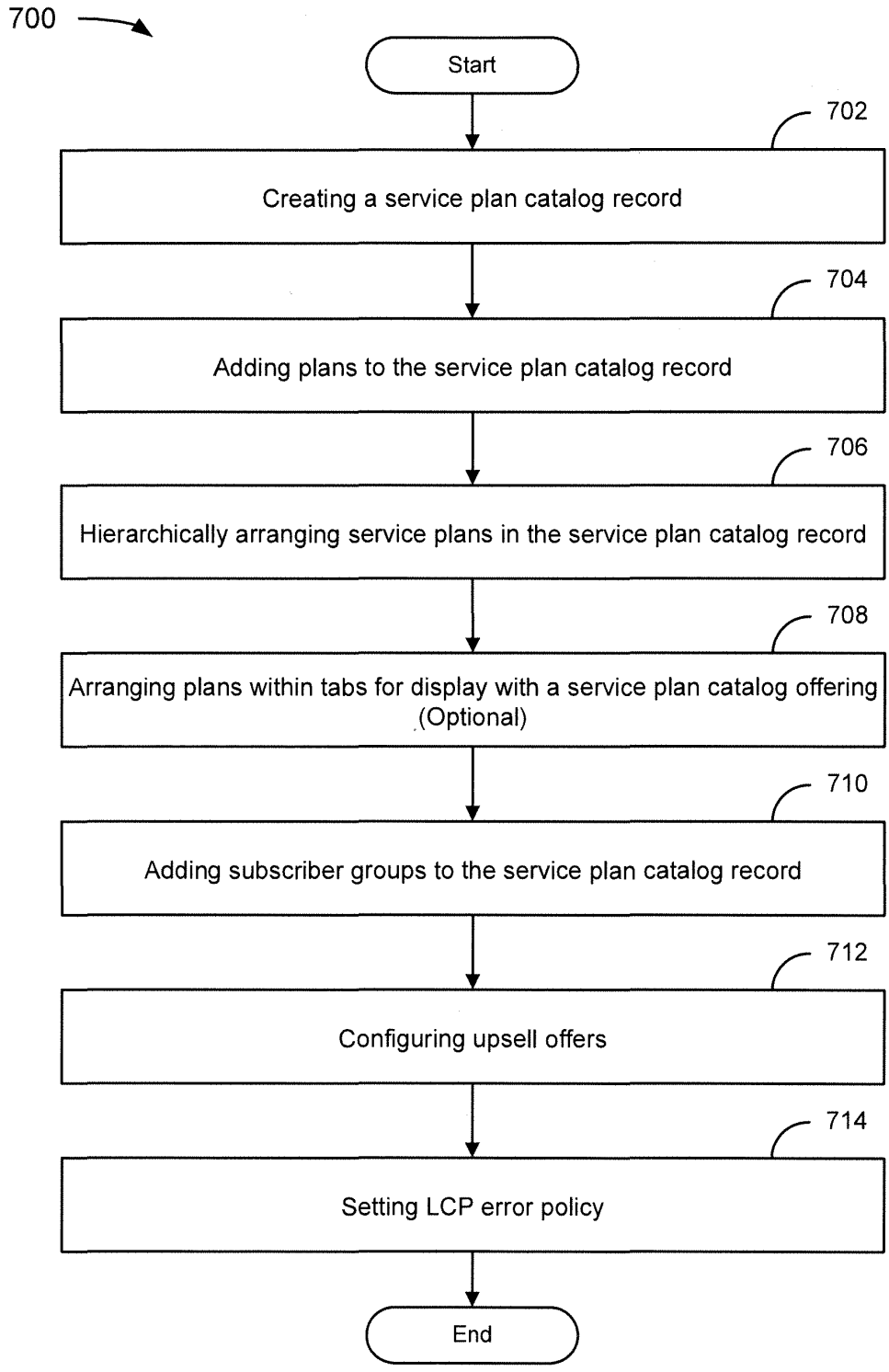

700
Start
702
Creating a service plan catalog record
704
Adding plans to the service plan catalog record
706
Hierarchically arranging service plans in the service plan catalog record
708
Arranging plans within tabs for display with a service plan catalog offering (Optional)
710
Adding subscriber groups to the service plan catalog record
712
Configuring upsell offers
714
Setting LCP error policy
End

FIG. 7

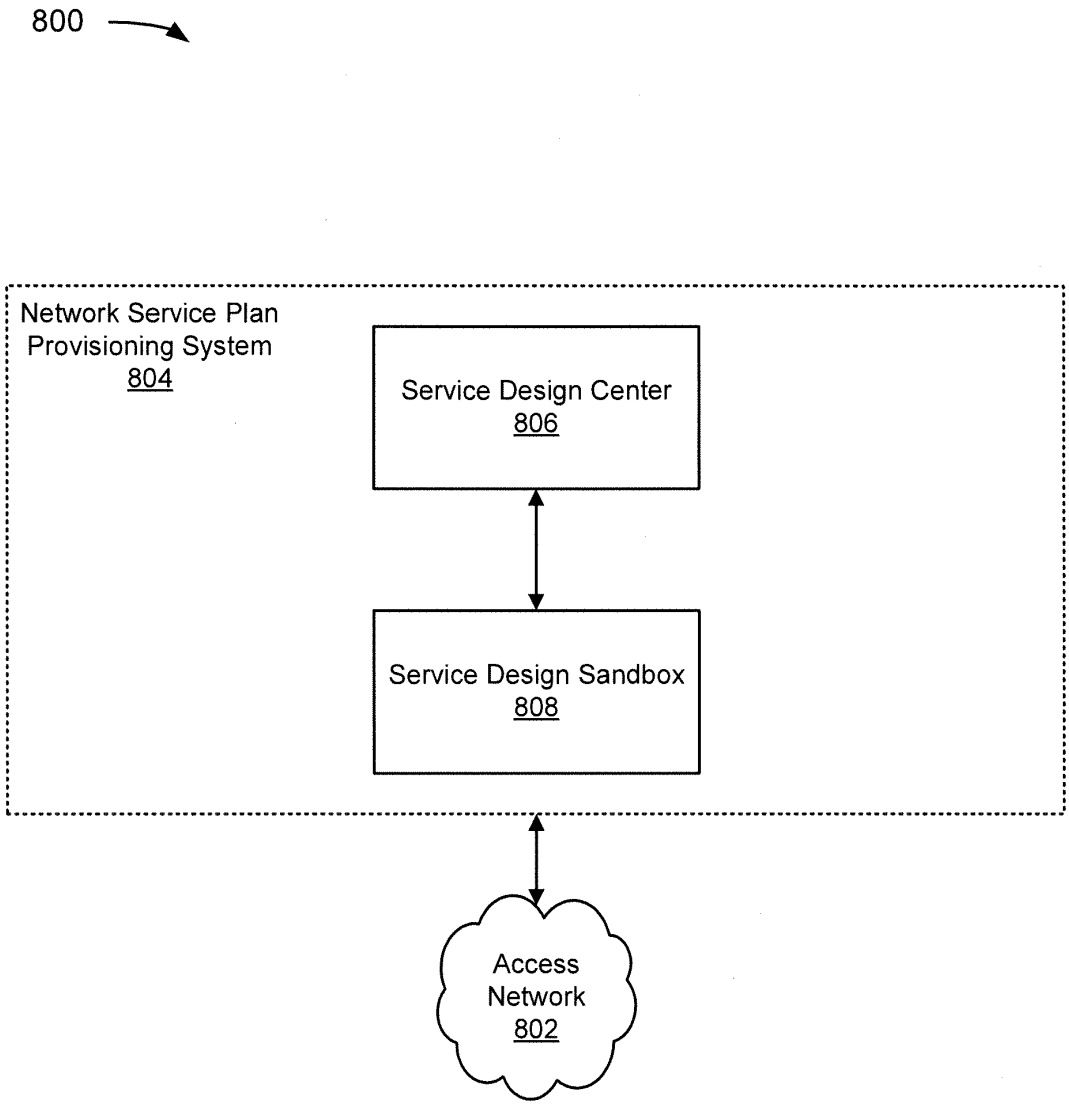

800
Network Service Plan Provisioning System 804
Service Design Center 806
Service Design Sandbox 808
Access Network 802

FIG. 8

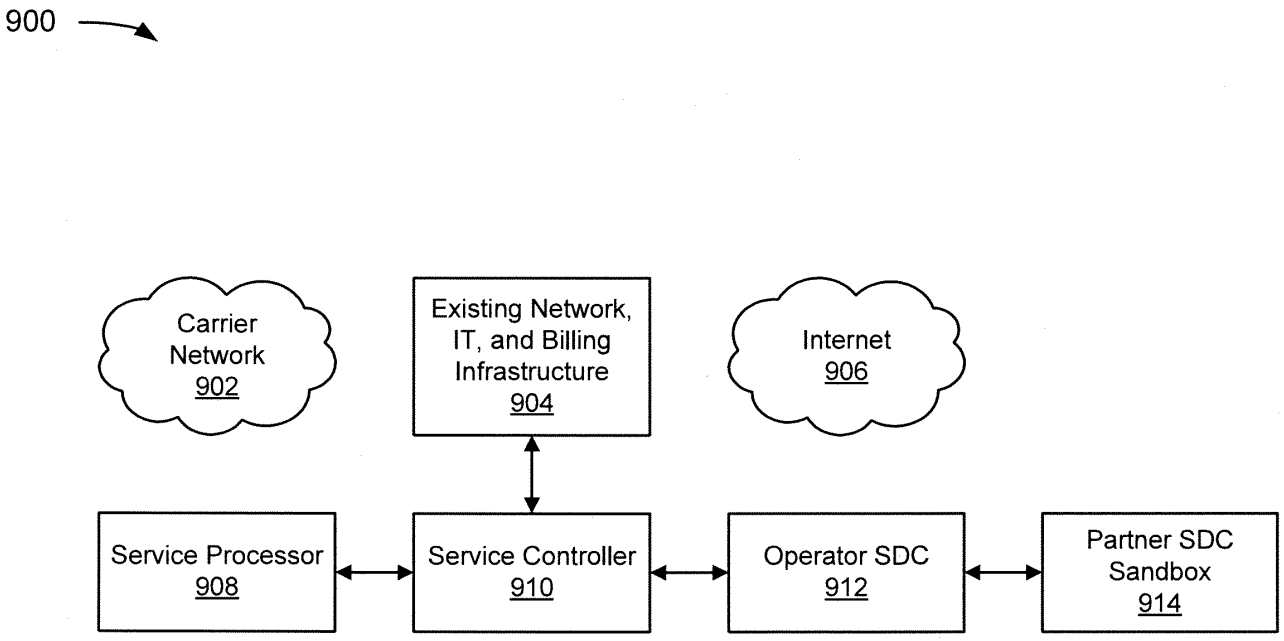

900
Carrier Network 902
Existing Network, IT, and Billing Infrastructure 904
Internet 906
Service Processor 908
Service Controller 910
Operator SDC 912
Partner SDC Sandbox 914

FIG. 9

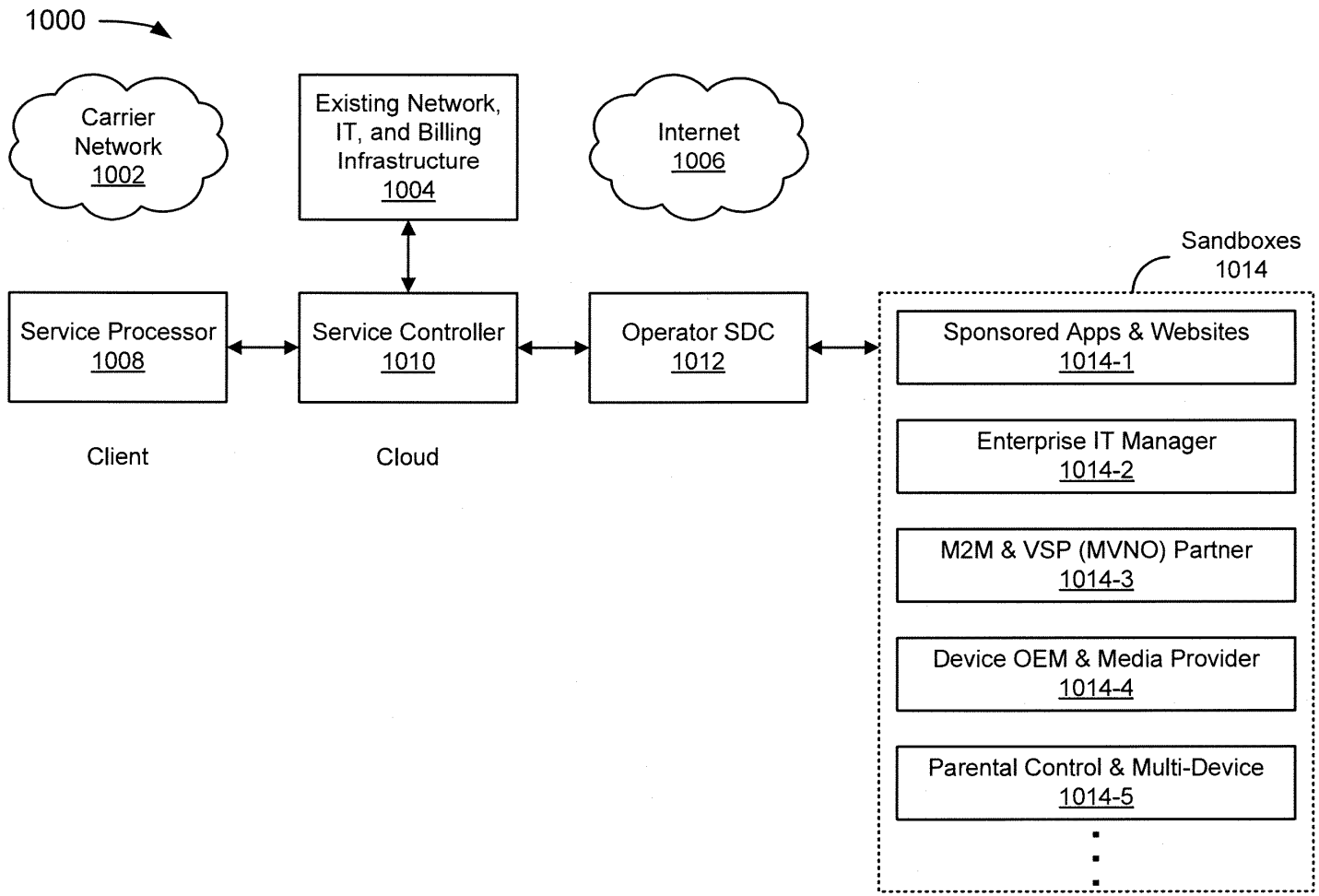

1000
Carrier Network 1002
Existing Network, IT, and Billing Infrastructure 1004
Internet 1006
Sandboxes 1014
Service Processor 1008
Service Controller 1010
Operator SDC 1012
Sponsored Apps & Websites 1014-1
Enterprise IT Manager 1014-2
M2M & VSP (MVNO) Partner 1014-3
Device OEM & Media Provider 1014-4
Parental Control & Multi-Device 1014-5
Client
Cloud

FIG. 10

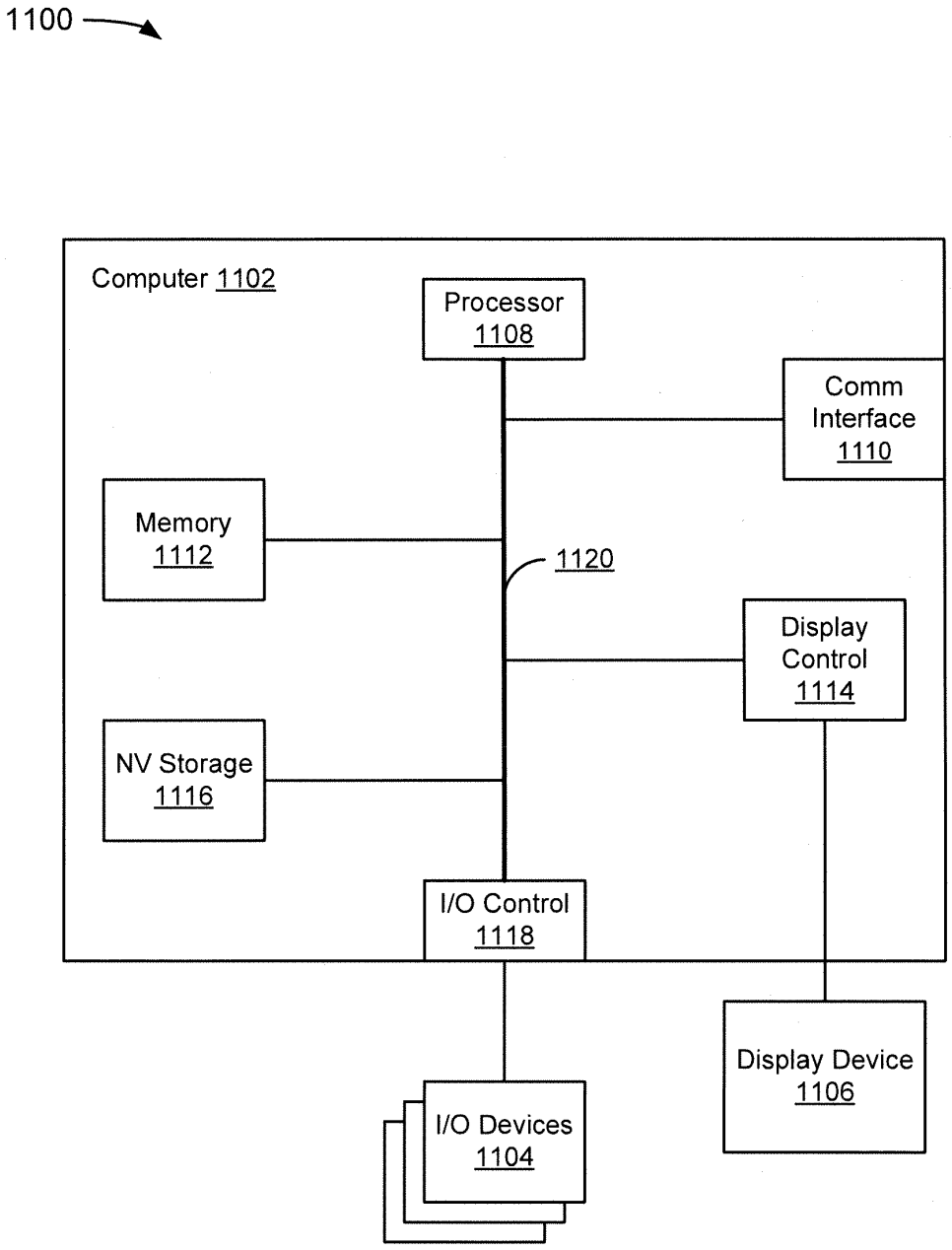

1100
Computer 1102
Processor 1108
Comm Interface 1110
Memory 1112
1120
Display Control 1114
NV Storage 1116
I/O Control 1118
Display Device 1106
I/O Devices 1104

FIG. 11

CONTINUATION-IN-PART APPLICATION FOR

UNITED STATES PATENT

IN THE NAME

of

- Gregory G. Raleigh -

- Alireza Raissinia -

- James Lavine –

- Justin James –

For

- Service Design Center for Device Assisted Services -

DOCKET NO. 26WV-160520 [RALEP043]

Please direct communications to:

Sheppard, Mullin, Richter & Hampton LLP
390 Lytton Avenue
Palo Alto, California 94301-1432

SERVICE DESIGN CENTER FOR DEVICE ASSISTED SERVICES

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of and incorporates by reference the following U.S. pending nonprovisional patent applications: U.S. publication No. 2010/0188975, filed March 2, 2009, entitled "Verifiable Device Assisted Service Policy Implementation," U.S. publication No. 2010/0192170, filed March 2, 2009, entitled "Device Assisted Service Profile Management with User Preference, Adaptive Policy, Network Neutrality, and User Privacy," U.S. publication No. 2010/0191612, filed March 2, 2009, entitled "Verifiable Device Assisted Service Usage Monitoring with Reporting, Synchronization, and Notification," U.S. publication No. 2010/0191576, filed March 2, 2009, entitled "Verifiable Device Assisted Service Usage Billing with Integrated Accounting, Mediation Accounting, and Multi-Account," U.S. publication No. 2010/0188991, filed March 2, 2009, entitled "Network Based Service Policy Implementation with Network Neutrality and User Privacy," U.S. publication No. 2010/0188990, filed March 2, 2009, entitled "Network Based Service Profile Management with User Preference, Adaptive Policy, Network Neutrality and User Privacy," U.S. publication No. 2010/0192212, filed March 2, 2009, entitled "Automated Device Provisioning and Activation," U.S. publication No. 2010/0191604, filed March 2, 2009, entitled "Device Assisted Ambient Services," U.S. publication No. 2010/0191575, filed March 2, 2009, entitled "Network Based Ambient Services," U.S. publication No. 2010/0188993, filed March 2, 2009, entitled "Network Tools for Analysis, Design, Testing, and Production of Services," U.S. publication No. 2010/0190470, filed March 2, 2009, entitled "Roaming Services Network and Overlay Networks," U.S. publication No. 2010/0192120, filed March 2, 2009, entitled "Open Development System for Access Service Providers," U.S. publication No. 2010/0192207, filed March 2, 2009, entitled "Virtual Service Provider Systems," U.S. application serial No. 12/380,757, filed March 2, 2009, and entitled

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"Service Activation Tracking System," U.S. publication No. 2010/0191613, filed March 2, 2009, entitled "Open Transaction Central Billing System," U.S. publication No. 2010/0188995, filed March 2, 2009, entitled "Verifiable and Accurate Service Usage Monitoring for Intermediate Networking Devices," U.S. publication No. 2010/0188994, filed March 2, 2009, entitled "Verifiable Service Billing for Intermediate Networking Devices," U.S. publication No. 2010/0191846, filed March 2, 2009, entitled "Verifiable Service Policy Implementation for Intermediate Networking Devices," U.S. publication No. 2010/0188992, filed March 2, 2009, entitled "Service Profile Management with User Preference, Adaptive Policy, Network Neutrality and User Privacy for Intermediate Networking Devices," U.S. publication No. 2010/0191847, filed March 2, 2009, entitled "Simplified Service Network Architecture," U.S. publication No. 2010/0197266, filed January 27, 2010, entitled "Device Assisted CDR Creation, Aggregation, Mediation, and Billing," U.S. publication No. 2010/0198698, filed January 27, 2010, entitled "Adaptive Ambient Services," U.S. publication No. 2010/0199325, filed January 27, 2010, entitled "Security Techniques for Device Assisted Services," U.S. publication No. 2010/0197267, filed January 27, 2010, entitled "Device Group Partitions and Settlement Platform," U.S. publication No. 2010/0198939, filed January 27, 2010, entitled "Device Assisted Services Install," U.S. publication No. 2010/0195503, filed January 27, 2010, entitled "Quality of Service for Device Assisted Services," U.S. publication No. 2010/0197268, filed January 28, 2010, entitled "Enhanced Roaming Services and Converged Carrier Networks with Device Assisted Services and a Proxy," and U.S. application serial No. 13/134,005, filed May 25, 2011, and entitled "System and Method for Wireless Network Offloading," U.S. application serial No. 13/134,028, filed May 25, 2011, and entitled "Device-Assisted Services for Protecting Network Capacity," and U.S. application serial No. 13/229,580, filed September 9, 2011, and entitled "Wireless Network Service Interfaces," U.S. application serial No. 13/237,827, filed September 20, 2011, and entitled "Adapting Network Policies Based on Device Service Processor

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Configuration," U.S. application serial No. 13/239,321, filed September 21, 2011, and entitled "Service Offer Set Publishing to Device Agent with On-Device Service Selection."

[0002] This application claims priority to and incorporates by reference the following U.S. pending provisional patent applications: U.S. provisional application serial No. 61/387,243, filed September 28, 2010, entitled "Enterprise and Consumer Billing Allocation for Wireless Communication Device Service Usage Activities," U.S. provisional application serial No. 61/387,247, filed September 28, 2010, entitled "Secured Device Data Records," U.S. provisional application serial No. 61/389,547, filed October 4, 2010, entitled "User Notifications for Device Assisted Services," U.S. provisional application serial No. 61/407,358, filed October 27, 2010, entitled "Service Controller and Service Processor Architecture," U.S. provisional application serial No. 61/418,507, filed December 1, 2010, entitled "Application Service Provider Interface System," U.S. provisional application serial No. 61/418,509, filed December 1, 2010, entitled "Service Usage Reporting Reconciliation and Fraud Detection for Device Assisted Services," U.S. provisional application serial No. 61/420,727, filed December 7, 2010, entitled "Secure Device Data Records," U.S. provisional application serial No. 61/422,565, filed December 13, 2010, entitled "Service Design Center for Device Assisted Services," U.S. provisional application serial No. 61/422,572, filed December 13, 2010, entitled "System Interfaces and Workflows for Device Assisted Services," U.S. provisional application serial No. 61/422,574, filed December 13, 2010, entitled "Security and Fraud Detection for Device Assisted Services," U.S. provisional application serial No. 61/435,564, filed January 24, 2011, entitled "Framework for Device Assisted Services," and U.S. provisional application serial No. 61/472,606, filed April 6, 2011, entitled "Managing Service User Discovery and Service Launch Object Placement on a Device."

[0003] Further, this application incorporates by reference the following U.S. provisional patent applications: U.S. provisional application serial No. 61/206,354, filed January 28, 2009, entitled "Services Policy Communication System and Method," U.S. provisional application

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serial No. 61/206,944, filed February 4, 2009, entitled "Services Policy Communication System and Method," U.S. provisional application serial No. 61/207,393, filed February 10, 2009, entitled "Services Policy Communication System and Method," U.S. provisional application serial No. 61/207,739, filed February 13, 2009, entitled "Services Policy Communication System and Method," U.S. provisional application serial No. 61/270,353, filed July 6, 2009, entitled "Device Assisted CDR Creation, Aggregation, Mediation and Billing," U.S. provisional application serial No. 61/275,208, filed August 25, 2009, entitled "Adaptive Ambient Services," U.S. provisional application serial No. 61/237,753, filed August 28, 2009, entitled "Adaptive Ambient Services," U.S. provisional application serial No. 61/252,151, filed October 15, 2009, entitled "Security Techniques for Device Assisted Services," U.S. provisional application serial No. 61/252,153, filed October 15, 2009, entitled "Device Group Partitions and Settlement Platform," U.S. provisional application serial No. 61/264,120, filed November 24, 2009, entitled "Device Assisted Services Install," U.S. provisional application serial No. 61/264,126, filed November 24, 2009, entitled "Device Assisted Services Activity Map," U.S. provisional application serial No. 61/348,022, filed May 25, 2010, entitled "Device Assisted Services for Protecting Network Capacity," U.S. provisional application serial No. 61/381,159, filed September 9, 2010, entitled "Device Assisted Services for Protecting Network Capacity," U.S. provisional application serial No. 61/381,162, filed September 9, 2010, entitled "Service Controller Interfaces and Workflows," U.S. provisional application serial No. 61/384,456, filed September 20, 2010, entitled "Securing Service Processor with Sponsored SIMs," and U.S. provisional application serial No. 61/385,020, filed September 21, 2010, entitled "Service Usage Reconciliation System Overview."

[0004] This application incorporates by reference the following U.S. nonprovisional patent applications, being filed concurrently herewith: U.S. application serial No. 13/247,998, filed September 28, 2011, and entitled "Secure Device Data Records" (Attorney Docket No. 26WV-

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160515 [RALEP038]); and U.S. application serial No. _____, filed September 28, 2011, by inventors Gregory G. Raleigh, Alireza Raissinia, and Jeffrey Green, and entitled "Enterprise Access Control and Accounting Allocation for Access Networks" (Attorney Docket No. 26WV-160514 [RALEP037]).

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BACKGROUND

[0005] Today, end user devices (such as a mobile phone, tablet computer, or notebook computer) sign up for one or more mutually exclusive service plans (e.g., text messages, voice, or data) before being allowed to use an access network. The service plans usually are either pre-paid or post-pay. Depending on which service plans a user subscribes, a cost of using the access network can vary. The access network determines whether the requested use is for the mutually exclusive categories of text messages, voice, or data. Once the appropriate service plan is determined, the access network can use a policy of the service plan to determine the cost for the use. However, a user is limited to selecting one service plan from each of these three mutually exclusive categories, and thus the user is limited in selecting how he/she wants to use the access network. For example, a user cannot select multiple data plans for various data services to customize an end user device's use of the access network.

[0006] The configuration of the access network to implement a particular service plan is also very difficult. For example, to create a service plan for data services, employees of the carrier that operate the access network will discuss basic attributes of the plan (e.g., whether to charge by MB or to be unlimited), and the cost of the plan. Then, an employee will enter into a network device the policy to track use of the access network (e.g., if the former is chosen) for end user devices that subscribe to the particular data plan. An employee also enters a policy into another network device for allowing end user devices that subscribe to the data plan to use the access network. This cumbersome process makes the design of the service plan rigid, time-consuming, and prone to errors, thereby taking a long time to complete and have users begin selecting the data plan for their data services.

[0007] The foregoing example of trends and issues is intended to be illustrative and not exclusive. Other limitations of the art will become apparent to those of skill in the relevant art upon a reading of the specification and a study of the drawings.

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BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 depicts an example of a system including an access network and a network service plan provisioning system.

[0009] FIG. 2 depicts a conceptual diagram of an example of a hierarchical structure useful for understanding service plan design and provisioning.

[0010] FIGS. 3 depict screenshots of a specific implementation of a service design system.

[0011] FIG. 4 depicts a flowchart of an example of a method for creating subscriber groups.

[0012] FIG. 5 depicts a flowchart of an example of a method for creating service plan components.

[0013] FIG. 6 depicts a flowchart of an example of a method for creating service plans from service plan components.

[0014] FIG. 7 depicts a flowchart of an example of a method for creating service plan catalogs from subscriber groups and service plans.

[0015] FIG. 8 depicts an example of system including an access network and a network service plan provisioning sandbox system.

[0016] FIG. 9 depicts a conceptual diagram of an example of a service design system sandbox implementation.

[0017] FIG. 10 depicts a conceptual diagram of an example of a service design system sandbox implementation.

[0018] FIG. 11 depicts an example of a computer system on which techniques described in this paper can be implemented.

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DETAILED DESCRIPTION

[0019] FIG. 1 depicts and example of a system 100 including an access network 102 and a network service plan provisioning system 104. In the example of FIG. 1, the access network 102 receives network element provisioning instructions to enforce plan policies from the network service plan provisioning system 104. In a specific implementation, the network service plan provisioning system 104 can receive service plan selection data from the access network, and provide new instructions based upon the selection.

[0020] The access network 102 can include a network that can provide network services to a device. The access network 102 can include a wireless network (e.g., WiFi, cellular, or some other wireless technology) and/or a wired network (e.g., LAN or DSL). Wireless or wired devices can be referred to as "on" the access network 102 when the devices complete relevant association, authentication, and/or other procedures that enable to devices to obtain the services offered on the access network 102 in accordance with applicable known or convenient techniques. Advantageously, the devices can have inter-network policies that are provided by the network service plan provisioning system 104 in accordance with techniques described in this paper. Inter-network policies, as the term is used in this paper, refer to traffic control, charging, and notification policies that remain in effect after a device passes from one network to another (e.g., by roaming). Intra-network policies, on the other hand, refer to control traffic control limited to the boundaries of a network (e.g., in-network traffic control, charging, and/or notification policies, plus an optional traffic control policy that permits or prevents roaming to another network).

[0021] It is likely that it will be desirable to couple the access network 102 to another network. Networks can include enterprise private networks and virtual private networks (collectively, private networks), which are well known to those of skill in computer networks. As the name suggests, private networks are under the control of an entity rather than being open to

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the public. Private networks include a head office and optional regional offices (collectively, offices). Many offices enable remote users to connect to the private network offices via some other network, such as the Internet, a public switched telephone network (PSTN), or the like. As used in this paper, a private network is intended to mean a network that is under the control of a single entity or hierarchy of entities. This is typically the case for cellular networks, wireless infrastructure networks, company LANs and WANs, and the like.

[0022] In the example of FIG. 1, the access network 102 and the network service plan provisioning system 104 may or may not be on the same private network, or a first entity may own or control a portion of the access network 102 and a second entity may own or control a portion of the access network 102 as well as the network service plan provisioning system 104. For example, a carrier may include the network service plan provisioning system 104, but the access network 102 may include a WiFi network owned by a local business entity. Advantageously, in a specific implementation, the carrier can continue to provide policy control while a subscriber is on the access network 102. Where the access network 102 includes a cellular network of the carrier in this example, even greater policy control may be possible.

[0023] It should be noted that a subscriber can be defined broadly to include any applicable device on the access network 102. For example, the access network 102 could include parking meter devices, food-dispensing machines, and automobile onboard computers, as well as smart phones and other devices frequently used by humans.

[0024] In the example of FIG. 1, the network service plan provisioning system 104 includes a service design engine 106, a service plan datastore 108, an optional policy enforcement priority rule datastore 110, an enforcement element provisioning instruction translation engine 112, a network provisioning instruction set 114, a network element provisioning engine 116, and analytics engine 118, a historical datastore 120 and a service plan selection engine 122.

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[0025] The service design engine 106 inputs service plan data structures and other related data that is described later in more detail into the service plan datastore 108. Engines, as described in this paper, refer to computer-readable media coupled to a processor. The computer-readable media have data, including executable files, that the processor can use to transform the data and create new data. An engine can include a dedicated or shared processor and, typically, firmware or software modules that are executed by the processor. Depending upon implementation-specific or other considerations, an engine can be centralized or its functionality distributed. An engine can include special purpose hardware, firmware, or software embodied in a computer-readable medium for execution by the processor. As used in this paper, a computer-readable medium is intended to include all mediums that are statutory (e.g., in the United States, under 35 U.S.C. 101), and to specifically exclude all mediums that are non-statutory in nature to the extent that the exclusion is necessary for a claim that includes the computer-readable medium to be valid. Known statutory computer-readable mediums include hardware (e.g., registers, random access memory (RAM), non-volatile (NV) storage, to name a few), but may or may not be limited to hardware.

[0026] Datastores, as described in this paper, can be implemented, for example, as software embodied in a physical computer-readable medium on a general- or specific-purpose machine, in firmware, in hardware, in a combination thereof, or in an applicable known or convenient device or system. Datastores in this paper are intended to include any applicable organization of data, including tables, comma-separated values (CSV) files, traditional databases (e.g., SQL), or other applicable known or convenient organizational formats. Datastore-associated components, such as database interfaces, can be considered "part of" a datastore, part of some other system component, or a combination thereof, though the physical location and other characteristics of datastore-associated components is not critical for an understanding of the techniques described in this paper.

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[0027] The service plan datastore 108 can store service plan data structures. As used in this paper, a data structure is associated with a particular way of storing and organizing data in a computer so that it can be used efficiently within a given context. Data structures are generally based on the ability of a computer to fetch and store data at any place in its memory, specified by an address, a bit string that can be itself stored in memory and manipulated by the program. Thus some data structures are based on computing the addresses of data items with arithmetic operations; while other data structures are based on storing addresses of data items within the structure itself. Many data structures use both principles, sometimes combined in non-trivial ways. The implementation of a data structure usually entails writing a set of procedures that create and manipulate instances of that structure.

[0028] In an example of a system where the service plan datastore 108 is implemented as a database, a database management system (DBMS) can be used to manage the service plan datastore 108. In such a case, the DBMS may be thought of as part of the service plan datastore 108 or as part of the service design engine 106 and/or the enforcement element provisioning instruction translation engine 112, or as a separate functional unit (not shown). A DBMS is typically implemented as an engine that controls organization, storage, management, and retrieval of data in a database. DBMSs frequently provide the ability to query, backup and replicate, enforce rules, provide security, do computation, perform change and access logging, and automate optimization. Examples of DBMSs include Alpha Five, DataEase, Oracle database, IBM DB2, Adaptive Server Enterprise, FileMaker, Firebird, Ingres, Informix, Mark Logic, Microsoft Access, InterSystems Cache, Microsoft SQL Server, Microsoft Visual FoxPro, MonetDB, MySQL, PostgreSQL, Progress, SQLite, Teradata, CSQL, OpenLink Virtuoso, Daffodil DB, and OpenOffice.org Base, to name several.

[0029] Database servers can store databases, as well as the DBMS and related engines. Any of the datastores described in this paper could presumably be implemented as database

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servers. It should be noted that there are two logical views of data in a database, the logical (external) view and the physical (internal) view. In this paper, the logical view is generally assumed to be data found in a report, while the physical view is the data stored in a physical storage medium and available to a specifically programmed processor. With most DBMS implementations, there is one physical view and an almost unlimited number of logical views for the same data.

[0030] A DBMS typically includes a modeling language, data structure, database query language, and transaction mechanism. The modeling language is used to define the schema of each database in the DBMS, according to the database model, which may include a hierarchical model, network model, relational model, object model, or some other applicable known or convenient organization. An optimal structure may vary depending upon application requirements (e.g., speed, reliability, maintainability, scalability, and cost). One of the more common models in use today is the ad hoc model embedded in SQL. Data structures can include fields, records, files, objects, and any other applicable known or convenient structures for storing data. A database query language can enable users to query databases, and can include report writers and security mechanisms to prevent unauthorized access. A database transaction mechanism ideally ensures data integrity, even during concurrent user accesses, with fault tolerance. DBMSs can also include a metadata repository; metadata is data that describes other data.

[0031] In a specific implementation, the service design engine 106 inputs policy enforcement priority rule data structures in the policy enforcement priority rule datastore 110. An aspect of policy control described in this paper entails the superposition of a first traffic classification filter of a service plan over a second traffic classification filter of the service plan. There is more than one way to accomplish this superposition including, for example, ordering the first and second traffic classification filter such that the first traffic classification filter is

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applied to a traffic event before the second traffic classification filter, trapping a match of the first traffic classification filter in a kernel until the second traffic classification filter is matched (then applying a first relevant action of an action list), or applying an explicit policy enforcement priority rule. Because implicit policy enforcement priorities can be used, the policy enforcement priority rule datastore 110 is optional. It should be noted that explicit policy enforcement priorities can be mandated in accordance with implementation- and/or configuration-specific parameters or a combination of implicit and explicit policy enforcement priorities can be used. In a specific implementation, explicit priorities trump implicit priorities (e.g., ordering).

[0032] In the example of FIG. 1, the enforcement element provisioning instruction translation engine 112 converts service plan data structures in the service plan datastore 108 into respective network provisioning instruction set data structures, which are stored in the network provisioning instruction set datastore 114. The translation engine 112 can also convert the relevant policy enforcement priority rule data structures from the policy enforcement priority rule datastore 110, if applicable, for inclusion in the network provisioning instruction set data structures.

[0033] In the example of FIG. 1, the network element provisioning engine 116 provides network element provisioning instructions to enforce plan policies to the access network 102. The network element provisioning instructions are applicable to one or more devices that may or may not currently be on the access network 102. In a specific implementation, the network element provisioning instructions are sent to the access network 102 only when the applicable one or more devices are on the access network 102.

[0034] In the example of FIG. 1, the analytics engine 118 receives data from the access network 102, which can include subscriber feedback or instructions. For the purposes of this example, the data is presumed to include service plan selection data, which is used by the service plan selection engine 122. The analytics engine 118 can modify the data in a manner

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that is useful to the network service plan provisioning system 104, which can include triggering actions based upon feedback or instructions from the access network 102. The data can be stored in the historical datastore 120, which can be used by the service design engine 106. For example, the service design engine 106 can specify whether more or less data should be requested from the device (e.g., based upon network state), determine whether to reduce counts or other notifications, specify parameters that are to be recorded within classifications, or the like.

[0035] Network state can be associated with a network busy state (or, conversely, a network availability state). A network availability state can include, for example, a state or measure of availability/capacity of a segment of a network (e.g., a last edge element of a wireless network). A network busy state can include, for example, a state or measure of the network usage level or network congestion of a segment of a network (e.g., a last edge element of a wireless network). In some embodiments, network availability state and network busy state are inverse measures. As used herein with respect to certain embodiments, network availability state and network busy state can be used interchangeably based on, for example, a design choice (e.g., designing to assign background policies based on a network busy state or a network availability state yields similar results, but they are different ways to characterize the network performance and/or capacity and/or congestion). In some embodiments, network availability state and network busy state are dynamic measures as such states change based on network usage activities (e.g., based on a time of day, availability/capacity level, congestion level, and/or performance level). In some embodiments, differential network service usage control of a network service usage activity is based on a network busy state or network availability state. In a specific implementation, there are four levels of network busy state (not busy, light, medium, critical).

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[0036] In the example of FIG. 1, the service plan selection engine 122 receives service plan selection data from the analytics engine 118. The service plan selection data can be from a device on the access network 102, originate from the access network 102, or a combination thereof. In a specific implementation, the service plan selection data is entered at a device by a user and forwarded to the service plan selection engine 122 through the access network 102.

[0037] Upon receipt of the service plan selection data, the service plan selection engine 122 can, if appropriate, select a new network provisioning instruction set in the network provisioning instruction set 114 for provisioning to the access network 102 in the manner described previously. (The service plan selection engine 122 may or may not be capable of triggering the service design engine 106 to modify a service plan, which is translated into a network provisioning instruction set for selection by the service plan selection engine 122.)

[0038] FIG. 2 depicts a conceptual diagram 200 of an example of a hierarchical structure useful for understanding service plan design and provisioning. The conceptual diagram 200 includes a collection of datastores associated with service plans 202, a collection of datastores associated with subscribers 204, a plan catalogs datastore 206, and a service design engine 208.

[0039] The collection of datastores 202 includes a filters datastore 210, a components datastore 212, a plans datastore 214, a rules datastore 218, a traffic control rule data structure 220, a charging data structure 222, and a notification data structure 224. The filters datastore 210 can include, for example, traffic control filter data structures that, when used, allow, block, throttle, delay (for a fixed period of time), and defer (until an event) a matched traffic event. Aspects of a traffic event to which a filter is mapped can include, for example, by remote destination, by application, by content (e.g., generic content such as streaming, specific content identifiable using regular expressions, etc.), by protocol, by port, by target operating system, to name several. In the context of service design, it has proven convenient to offer designers filter

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packages that combine a traffic control filter with an action. Such actions can include notify (which triggers a notification to be sent to a notification destination), cap (which increments a count), trap (which traps a match at the kernel level to see if another filter is matched later), and instructions (which can result in some other instruction to be executed).

[0040] The components datastore 212 can include, for example, a set of filter packages, including at least one filter, and a set of policies. Because components can inherit policy, it is not an explicit requirement that a component include at least one policy. However, when a component is assembled in a service plan offering, the component will have either a policy in the set of policies or will inherit a policy.

[0041] The plans datastore 214 can include, for example, a hierarchy of components. The components are organized into classes, which can include, for example, carrier, network protection, application (paid or sponsored), interceptor (marketing interceptor or parental control), bulk, post-bulk, and end-of-life. It at least one implementation, the end-of-life class is handled by a default, rather than a component that is stored in the components datastore 212.

[0042] The rules datastore 218 includes policy rules. For illustrative purposes, three policy type data structures are depicted as directed toward the rules datastore 218, traffic control policy data structure 220, charging policy data structure 222, and notification policy data structure 224. The traffic control policy data structure 220 can include a variety of filter packages designed to control the flow of traffic, such as allow or block, and take certain actions in association with the traffic control, such as cap-and-match. The charging policy data structure 222 can be directed to a user or a sponsor (who can subsidize network service usage) and can include a charging code.

[0043] The notification policy data structure 224 can be directed to a user, a sponsor, or an engine that takes further action in accordance with variables or constant parameters in the notification and can include content for use by the target of the notification and a trigger (e.g., a

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selectable button that results in the execution of relevant instructions). Notification types include plan limit thresholds (plan has reached a specified % of charging policy cap), plan cap limit (requested network activity has been capped because charging policy cap has been reached), plan limit overage (overage has reached a specified %; offer the option of overage, new service plan, block ongoing usage, etc.), plan expiration (plan expired; offer option to buy a new plan), activity block event (activity blocked by filter or activity state change), no capable plan (plan does not support the requested network activity, which has been blocked), marketing interceptor (specific message or offer based on current activity or status), promotional message (overview of what plan provides), upsell offer (upsell tiered plan based on current usage). Notification actions can be added to notifications to make them "actionable," which means that a recipient of the notification can provide feedback or instructions in response to the notification. Notification actions can include, for example, OK/dismiss, cancel, acknowledge, buy (links to buy workflow), more info (e.g., more information regarding why a traffic event was blocked, suggestions for traffic activity changes or service plan purchase), back (call a previous workflow screen), next (call a next workflow screen), launch (launch URL or application). Notification customizations can include foreground, background, foreground/background (display in foreground if activity is in foreground and in background otherwise), title, subtitle, text, icon, buttons/actions, "do not show again" (will not show again for a specified time), default target button (specifies a default response action), or the like.

[0044] The collection of datastores associated with subscribers 204 includes a subscribers datastore 226 and a subscriber groups datastore 228. The subscribers datastore 226 includes subscriber data structures that include information about subscribers. A minimalist subscriber data structure is likely to at least include a subscriber identification that is unique within the system 200 or universally, such as an International Mobile Subscriber Identity (IMSI). It may

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also be useful to include such information as a phone number, device type, and/or International Mobile Equipment Identity (IMEI).

[0045] The subscriber groups datastore 228 includes subscriber group data structures that include groupings of subscribers. The types of groupings that can be done in a system depends upon the amount of information that is known about subscribers. For example, subscribers can be grouped by device type, device characteristics, demographic characteristics of the subscriber, region, etc.

[0046] The plan catalogs datastore 206 includes plan catalog data structures that are available to consumers or providers of network service plans. The plan catalog data structures are combinations of components from the collection of datastores associated with service plans 202 and the collection of datastores associated with subscribers 204.

[0047] The service design engine 208 can manage the datastores depicted in the example of FIG. 2. Aspects of service design and/or provisioning can be assigned to agents of the system 200. The amount of control over the system that an agent is granted is based upon the role of the agent, which can be recorded in the roles datastore 230. Roles can be set to super user, portal admin, system admin, or some other role that is applicable to the capabilities of the design center (e.g., whether it is a carrier design center, or a sandbox for an enterprise, applications developer, community-based organization, gifting organization, Mobile Virtual Network Operator (MVNO), etc.) and the human agent who is using the system.

[0048] Screenshots of a user interface for a specific implementation of a service design engine, such as the service design engine 208, can be used to illustrate some of the functionality of the service design engine 208. FIG. 3 depicts screenshots of a User Interface (UI) for a specific implementation of a service design system.

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[0049] In the example of FIG. 3A, following login, a designer is directed to a service design center UI home page with an open tasks field 302, a recent activity field 304, and a menu buttons field 306. The open tasks field 302 can include drafts that are awaiting approval, beta tests that are awaiting publication/deployment, and deployed plans that are targeted for termination, or other open tasks. The recent activity field 304 can include as much or as little information as is deemed useful to designers.

[0050] The menu buttons field 306 includes eight buttons, a subscribers button, a subscriber group button, a plans button, a plan catalogs button, a templates button, a reports button, a settings button, and a my profile button. Selecting the my profile button brings a designer to screenshot 300B (FIG. 3B), where the designer can enter information such as first name, last name, password, and role. Roles can be set to super user, portal admin, system admin, or some other role that is applicable to the capabilities of the design center (e.g., whether it is a carrier design center, or a sandbox for an enterprise, applications developer, community-based organization, gifting organization, Mobile Virtual Network Operator (MVNO), etc.) and the particular designer who is using the system.

[0051] Selecting the settings button of the menu buttons field 306 brings a designer to screenshot 300C (FIG. 3C), where the designer can select a roles tab, a users tab, or a presets tab from a tabs menu 308. Selecting the Roles tab from the tabs menu 308 enables a designer to add roles, such as component editor, plan creator, plan group publisher, plan viewer, report viewer, and system admin. It may be noted that a designer will not necessarily be able to view all roles in this tab and, in a likely implementation, may be unable to create roles with rights the designer does not have (e.g., a system admin may have fewer rights than a super user and different rights than a portal admin). Selecting the Users tab from the tabs menu 308 enables a designer to add and edit users. In the example of FIG. 3D (screenshot 300D), the user das has been selected, and das' details, such as username (email address), first name, last name,

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whether the user is enabled, roles, and available roles are depicted. Selecting the Presets tab from the tabs menu 308 enables a designer to choose a default plan icon as depicted in the example of FIG. 3E (screenshot 300E).

[0052] Selecting the subscribers button of the menu buttons field 306 and selecting a new subscriber brings a designer to screenshot 300F (FIG. 3F). In this specific implementation, the subscriber information includes a device name, subscriber group, owner name, locale, EID, phone number, device type, operating system version, CDMA subscriber details, and GSM/LTE subscriber details. This information can also be edited for subscribers that are already in the subscribers datastore.

[0053] Selecting the subscriber groups button of the menu buttons field 306 brings a designer to screenshot 300G (FIG. 3G), where the designer can select a properties tab or an import tab. Choosing to create a new subscriber group prompts the designer to enter a group name and description, and to drag subscribers into the group. Selecting the import tab enables the designer to import subscribers from a subscribers datastore in a batch operation. See, e.g., FIG. 3H, screenshot 300H. Information can also be edited for subscriber groups that are already in the subscriber groups datastore.

[0054] Selecting the plans button of the menu buttons field 306 and selecting a new plan brings a designer to screenshot 300I (FIG. 3I). In this specific implementation, the plan information includes a plan icon, a plan name, a plan short description, a plan description, a plan version, a plan type (e.g., sponsored, paid, or carrier), an is default checkbox, an is repurchaseable checkbox, a billing price, and a display price (in case the billing price is not the same as the billing price). A next screenshot 300J (FIG. 3J) includes enables entry of further information about the plan, including charging policy (e.g., based on data used or time spent, usage limits and overage allowances), billing policy (e.g., one-time or recurring, usage reporting, and pre- or post-billing). It is possible in this specific implementation to show a policy label on

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the device and include billing identifiers. A charging code can also be created or selected by the designer. A next screenshot 300K (FIG. 3K) includes an option to add components, either by creating a new component or cloning an existing component. In the example of FIG. 3K, three components have been added to the list of components for the plan, with explicit priorities 1, 2, and 3. Note that in this specific implementation, the number of tabs in the tab menu 310 increases as data is entered for the plan until the tab menu 310 includes a properties tab, a charging & billing tab, a components tab, a policy events tab, and a review tab.

[0055] When the designer selects a component, such as the "Copy of No Youtube," a component screenshot 300L (FIG. 3L) is displayed, which includes a tab menu 312 that includes a properties tab, a filters tab, and a policy events tab. (The tab menu 312 can also include a charging policy tab if a charging policy is defined for the component.) Selecting the properties tab from the tab menu 312 enables the designer to edit the component name, service class (e.g., carrier, network protection, sponsored, specialized application, market interceptor, parental control, open access, and post-bulk), and whether the component has a charging policy explicitly defined or inherits the charging policy from the plan. It may be noted that the service class could be characterized to include an "end-of-life" service class for when a subscriber has no remaining service plan options, but in this specific implementation the end-of-life setting is not listed as a service class (described later).

[0056] Selecting the filters tab from the tab menu 312 brings the designer to screenshot 300M (FIG. 3M), where filters can be chosen for a selected component (in this example, the "No Youtube" component). When the designer selects a filter to edit, the designer is brought to screenshot 300N (FIG. 3N), which facilitates editing of the filter name, description, whether the filter is associative only, whether the filter is "no-match," filtering parameters (e.g., filter by remote destination, filter by application, filter by target operating system, filter by content, filter by protocol, filter by port), and whether and how to display in a launcher widget.

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[0057] Selecting the policy events tab from the tab menu 312 and creating a new policy event brings the designer to screenshot 300O (FIG. 3O) where the designer can select policy events based upon network state when certain conditions (e.g., cap & no match, cap & match, block for a device, disallow and match, disallow and no match, in this network state, transitioning into this network state, and transitioning out of this network state) are met. Continuing to the next screenshot 300P (FIG. 3P), the designer enters event properties, such as the name of the policy event, a description, whether to display notifications associated with the event in foreground or background, whether to send notification results to service, maximum number of times to send the notification, and whether the user can suppress future notifications. Note that in this specific implementation, the number of tabs in the tab menu 314 increases as data is entered for the policy event until the tab menu 314 includes a policy event tab, a properties tab, a messages tab, and a buttons tab.

[0058] Continuing to the next screenshot 300Q (FIG. 3Q), the designer enters message details, such as title, subtitle, short text, and long text. Clicking on "how to use variables" instructs the designer regarding what variables can be added to notifications, such as name of service plan, charging code name, filter (e.g., blocked, throttled, etc.), percentage of plan utilization in bytes or time, application name, overage limit, current overage, throttle rate, date when cycle will refresh, duration of cycle, name of plan matched after current plan reached a cap, name of plan matched after disallow matched, current roaming state, current active network, or host or domain, to name several.

[0059] Continuing to the next screenshot 300R (FIG. 3R), the designer determines whether to display upsell plans and enters buttons to enable subscriber responses to the notification (in this example, the view catalog and cancel buttons are enabled). The phone image 316 is intended to illustrate how the message and buttons will appear within a device, though the image will not necessarily be a perfect representation.

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[0060] When returning to the plan level (see FIG. 3K), the designer can select the policy events tab from the tab menu 310 to display screenshot 300S (FIG. 3S) and enter policy events at the plan level. It may be noted that the policy events described with reference to the examples of FIG. 3O to 3R were associated with an individual component. In the example of FIG. 3S, a policy event associated with the network state "on a WiFi network" and on a Monday through Friday causes a notification to be sent when a cap and match is seen. Other policy event parameters can be set in a manner similar to those described with reference to FIGS. 3P to 3R.

[0061] Upon completion of the plan described with reference to FIGS. 3I to 3S, the designer can select the review tab from the tab menu 310 (see, e.g., FIG. 3K) to display screenshot 300T (FIG. 3T). It may be noted that the review screen is "cut off," which prevents observation of policy events, but this is not necessary to understand the nature of the review screen. In this example, the plan, which is stored as a "draft" plan, can be published for beta testing (and submitted for approval).

[0062] Referring back to the home page (see, e.g., FIG. 3A), selecting the plan catalogs button from the menu buttons field 306 brings a designer to screenshot 300U (FIG. 3U). There, the designer can enter a plan catalog name, a plan catalog description, and a plan catalog version (or select a plan catalog from plan catalogs in a plan catalogs datastore). When the designer clicks "next," the tab menu expands into a tab menu 318, which includes the properties tab, a plans tab, a plan priorities tab, a tabs tab, a subscriber groups tab, an LCP error tab, an upsells tab, a promotions tab, and a review tab, as is illustrated in the example of FIG. 3V. Under the plans tab, the designer can drag plans into a plan catalog.

[0063] When the designer selects the plan priorities tab from the tab menu 318, the designer is brought to screenshot 300W (FIG. 3W), where the plans of the plan catalog can be prioritized. The plans are prioritized per plan type (e.g., carrier plan, paid plan), and if there are

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multiple plans within a plan type, the plans can be prioritized within the plan types, as well. Some or all of the plans can also be designated as available upon activation. With versioning, subscribers having a previous plan version can continue to use the previous version, while new subscribers can be offered the most recent version. If an old plan expires, a subscriber can be offered the most recent version, as well.

[0064] When the designer selects the tabs tab from the tab menu 318, the designer is brought to screenshot 300X (FIG. 3X), where the designer can organize tabs for display of plans. A subscriber's device can display, for example, one or more tabs such as games, social, productivity, media, free, paid, and all, and under the tabs the various plans can be listed in an order that is determinable by the designer.

[0065] When the designer selects the subscriber groups tab from the tab menu 318, the designer is brought to screenshot 300Y (FIG. 3Y), where the designer can drag and drop subscriber groups.

[0066] A Lacks Compatible Plan (LCP) error occurs when a traffic event is received for which there is no active service plan. LCP errors can be treated as a particular kind of policy event. As when designating the parameters of policy events, when the designer selects the LCP errors tab from the menu 318, the designer has options similar to those described above with reference to FIGS. 3P to 3R. That is, the designer can choose applicable end-of-life properties, messages, and buttons.

[0067] Upsells occur when offered from a component, plan, or plan catalog, and can be responsive to traffic events (e.g., an upsell for cheaper network service when using facebook applications can occur when a subscriber consumes more expensive network services to use facebook applications) or other events. When the designer selects the upsells tab from the menu 318, the designer can edit upsell opportunities offered from, e.g., notifications within a

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plan catalog or any of its plans or components. Upsells can be edited much like policy events (e.g., properties, messages, and buttons).

[0068] Promotions can be offered once or periodically. When the designer selects the promotions tab from the menu 318, the designer can edit a frequency of a promotion in screenshot 300Z (FIG. 3Z). Promotions can be edited much like policy events (e.g., properties, messages, and buttons).

[0069] When the designer selects the review tab from the menu 318, the designer can review the plan catalog as is illustrated in screenshot 300AA (FIG. 3AA).

[0070] Referring back to the home page (see, e.g., FIG. 3A), selecting the templates button from the menu buttons field 306 enables a designer to work on filter templates. Because components can have versions, it can be desirable to create templated filters that, when placed in a component, automatically create a copy of the templated filter. That way, when the filter is changed for one version, it is not changed for another. It is also possible to simply reuse a filter in components, in which case if the filter is changed, it is changed for all of the components into which it was reused.

[0071] Selecting the reports button from the menu buttons field 306 enables a designer to review reports. FIG. 3AB depicts a screenshot 300AB with reports that are broken into several categories including, usage, revenue, popularity, health (fraud), per subscriber, and other. Reports are generated using information that is available from datastores of the service design system, which can include data in notifications from subscriber devices or, more generally, access networks.

[0072] FIG. 4 depicts a flowchart 400 of an example of a method for creating subscriber groups. This flowchart and other flowcharts are depicted in the figures of this paper as serially

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arranged modules. However, modules of the flowcharts may be reordered or arranged for parallel execution as appropriate.

[0073] In the example of FIG. 4, the flowchart 400 starts at module 402 with creating a subscriber record. The term "record" as used in this paper can refer to a data structure of any applicable format saved in a data store. A subscriber record can include such information as device name, owner name, EID (e.g., IMSI or Country Code + Operator Code + MIN), device type, subscriber group, locale, phone number (e.g., MSISDN or MDN), operating system version, CDMA subscriber details (e.g., Device ID/MEID and/or MSID), and GSM/LTE subscriber details (e.g., IMSI and/or IMEI). Generally, more information will enable designers to group subscribers together in different ways (e.g., by demographic information), which can result in improved accept rates for targeted notifications.

[0074] In the example of FIG. 4, the flowchart 400 continues to module 404 with storing the subscriber record in a service design system subscriber datastore. Datastore is a general term that can be applied to almost any data storage receptacle. For the purpose of this example, however, a specific format is expected. It is possible, and even likely, that the service design system subscriber datastore (and the service design system subscriber group datastore, mentioned later) will have an implementation- and/or configuration-specific, though not necessarily proprietary, format. The subscriber record is expected to have such a format appropriate for storage in the expected format of the service design system subscriber datastore. In the event subscriber data is received in the service design system in a format other than the expected format, the subscriber record is created (402) in the expected format and populated with some or all of the received subscriber data, and potentially with additional data that is obtained by the service design system (e.g., from a datastore or through an admin or other input process).

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[0075] In the example of FIG. 4, the flowchart 400 continues to decision point 406 where it is determined whether there is additional subscriber records to be created. If it is determined that there is additional subscriber records to be created (406-Y), then the flowchart 400 returns to module 402 and continues as described previously for the next subscriber record. A "while loop" 408 comprising the modules 402 and 404 and decision point 406 is encompassed in the example of FIG. 4 with a dotted box. The while loop 408 can be executed in batch-mode by importing subscriber data from a data source. The format of the subscriber data can be restricted to the format of the service design system subscriber datastore or formats that a service design engine is capable of converting into the appropriate format. Alternatively or in addition, the while loop 408 can be executed through an input process one subscriber at a time, either when receiving data from a potential or current subscriber, or from an artificial or human agent of the service design system.

[0076] If, on the other hand, it is determined that there are no additional subscriber records to be created (406-N), then the flowchart 400 continues to module 410 with creating a subscriber group record from subscriber records in the service design system subscriber datastore. A subscriber group record may or may not have a substantial amount of metadata. For example, a subscriber group record can be assigned a name and description to make it easier to use the subscriber group record when creating service plans for subscriber groups. An alternative field of the subscriber group record is common subscriber data, though this could also be considered part of the description.

[0077] In the example of FIG. 4, the flowchart 400 continues to module 412 with storing the subscriber group record in the service design system subscriber group datastore. The issues related to format of subscriber group records are similar to those described previously with reference to module 404.

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[0078] In the example of FIG. 4, the flowchart 400 continues to decision point 414 where it is determined whether there is additional subscriber group records to be created. If it is determined that there is additional subscriber group records to be created (414-Y), then the flowchart 400 returns to module 410 and continues as described previously for the next subscriber group record. A "while loop" 418 comprising the modules 410 and 412 and decision points 414 and 416 is encompassed in the example of FIG. 4 with a dotted box. The while loop 416 can be executed in batch-mode by importing subscriber records from the subscribers datastore. Alternatively or in addition, the while loop 418 can be executed through an input process one subscriber at a time, either when receiving data from a potential or current subscriber, or from an artificial or human agent of the service design system. For example, an admin could drag and drop available subscribers into a subscriber group, and the service design engine can create a subscriber group record from available subscribers that were added to the subscriber group in this way.

[0079] In a specific implementation, a batch of subscriber data can be imported into the service design system and used to populate a subscriber group. It may be noted that the logical flow in the flowchart 400 is to create subscriber records (412) and store the subscriber records (404) repeatedly (406) and then create a subscriber group (410) from subscriber records in the service design system subscriber datastore. However, it is not necessary for the import procedure to create each subscriber record before creating the subscriber group.

[0080] In a specific implementation, when a subscriber record with a characteristic that identifies the subscriber record as part of an existing subscriber group record is created and stored in the service design system subscriber datastore, that subscriber may or may not automatically be added to the existing subscriber group record (or an update procedure could add any subscriber records having the relevant characteristics that were not previously added to

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the subscriber group record when initiated by a subscriber or agent of the service design system).

[0081] Referring once again to decision point 414, if it is determined that there are no additional subscriber group records to be created (414-N), then the flowchart 400 continues to decision point 416 where it is determined whether there are additional subscriber records to be created. If it is determined that additional subscriber records are to be created (416-Y), then the flowchart 400 returns to module 402 and continues as described previously. If, on the other hand, it is determined that no additional subscriber records are to be created (416-N), then the flowchart ends. It may be noted that in a typical implementation, the method could be restarted at module 402 or module 410 if there is an other subscriber record or another subscriber group record to be created. Therefore, the end is a logical end to the flowchart 400, but the process can continue as needed.

[0082] FIG. 5 depicts a flowchart of an example of a method for creating service plan components. In the example of FIG. 5, the flowchart 500 starts at module 502 with creating a filter instance. A filter record is created by this action, but the term "instance" is used because of the way in which a filter is used in the system. Specifically, a filter can have global characteristics in the sense that if two service plan components incorporate the filter instance and the filter instance is later changed, the changes are applied to both of the service plan components. Thus, there is a single filter instance that is used in multiple components. Alternatively, a filter instance can be created from a template in the sense that if two service plan components incorporate the filter instance and a change is made to one of the filter instances, the changes are not applied to the other filter instance. Thus, each application of the filter template is a separate filter instance. In a specific implementation, filter instances can be explicitly set to be either global or local. It is also possible to create a global filter template (such that changes to the global filter template are applied to all instances of the filter) as well as local

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filter instances that can be changed within service plan components without the changes cascading through they system.

[0083] In the example of FIG. 5, the flowchart 500 continues to module 504 with storing the filter instance in a service design system filter datastore. The service design system filter datastore may have explicit data structure requirements for the filter instance, but will at least include a traffic instance that matches the filter. In a specific implementation, the traffic instances can include traffic events that include a specified remote destination (e.g., a domain or IP address), a specified application (identified by, e.g., name, hash, certificate, signature, other secure ID, etc.), a specified operating system, specified content, a specified protocol (e.g., TCP, UDP, TCP/UDP), or a specified port number. Domain filters can be specified to allow references to be loaded and/or to use associative filtering (e.g., by seconds or by bytes of data). Application filters can be specified to validate applications. Each filter instance stored in the service design system filter datastore can include a filter name and description to make use of the filter easier for human agents.

[0084] In a specific implementation, filter instances can be specified to be match or no match filters. A "match" filter does not prevent attempts to match a traffic event to another filter. A "no match" filter prevents a network traffic inspection engine from attempting to match a traffic event to another filter. In a sense, this applies an action to a filter, and the match and no match aspect of a filter can be treated as a filter aspect or an associated action aspect, whichever is more applicable in a given context.

[0085] In the example of FIG. 5, the flowchart 500 continues to decision point 506 where it is determined whether there are more filter instances to create. If it is determined that there are more filter instances to create (506-Y) then the flowchart 500 returns to module 502 and continues as described previously for a next filter instance.

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[0086] If, on the other hand, it is determined that there are no additional filter events to be created (506-N), then the flowchart 500 continues to module 508 with creating a corresponding policy event rule record. The policy event rule enables a service plan component to determine what network state (including any network state) is applicable to a policy event. It may be noted that in a specific implementation, the rules can be created without a corresponding filter (e.g., as a stand-alone rule). The policy event rule becomes applicable when a filter matches a traffic event in a way that is specified by the rule. For example, if a traffic event matches a filter instance such that a network state is detected (e.g., in a network state, transitioning into the network state, or transitioning out of the network state), then a rule that specifies these conditions is applicable. Other examples of specified conditions are when a traffic event is allowed, blocked, throttled, delayed, or deferred, each which could be specified to be match or no match.

[0087] Policy rules can also define caps, which are met when a count of, e.g., time or bytes, reaches the defined cap. (It may be noted that a count can be considered part of a notification policy.) When a capped policy event has a counter increment to its defined cap, the filter can change from, e.g., allow (when the cap has not been exceeded) to block, throttle, delay, or defer (when the cap has been exceeded). The capped policy event could similarly go from, e.g., throttle (when the cap has not been exceeded) to throttle more (when the cap has been exceeded) or some other combination of filtering activity before and after a cap has been exceeded.

[0088] In the example of FIG. 5, the flowchart 500 continues to module 510 with storing the corresponding policy event rule record in the design system rules datastore. Policy event rules records can include one or more of a traffic control policy, a notification policy, and a charging policy. Traffic control policy rules are associated with the type of filter to which the traffic control policy rule corresponds (e.g., allow, block, throttle, delay, defer, or take no action). The

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applicable traffic control can be function of network state, device state, service plan usage state, etc.

[0089] Notification policy rules are associated with sending information to a party, such as a subscriber, human or non-human agent of a service design system, a program, etc. In a specific implementation, a notification policy record can be given a name and description, and notification details such as whether the notification is in the foreground or background, the destination of the notification (e.g., to a subscriber, to a server, or to some other party), and interaction that is enabled in association with the notification (e.g., number of times the notification is displayed before it is no longer displayed to a user or an option that enables a user to suppress the notification in the future). Notifications to subscribers and human agents of the service design system will typically include human-readable content, such as a title, subtitle, short text, and/or long text description. Notifications to non-human agents may or may not include the same information, and can include instruction sets that make little or no sense when read by a human. In a specific implementation, notifications can include variables that insert data from datastores, about network state, or other data that can vary over time. A service design agent can include selection options (e.g., buttons) in a notification that enable the recipient to provide feedback or instructions. Useful selection options might include, for example, upsell plans, a service offerings catalog, a request for more information, an indication that overage is desired, launching a URL, and/or dismiss. In a specific implementation, a service design system agent can use a graphical user interface that displays a mobile device with the notification as it would be displayed (perhaps without some icons or other features of the mobile device) to make review of the notification convenient.

[0090] Charging policy rules are associated with determining how much to bill for usage (in time or bytes). In a specific implementation, a service plan component can inherit charging policy from a plan in which the component is integrated. So, strictly speaking, in such an

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implementation, a service plan component record need not have a charging policy rule, though when deployed it can have a charging policy rule due to inheritance. Where the charging policy is defined for a component, the charging policy can be based on data used or time, may or may not have an overage allowance (with an optional maximum overage usage), and will have a rate, which can be specified with a charging code.

[0091] In the example of FIG. 5, the flowchart 500 continues to module 512 with creating a service plan component record that includes the filter instance from the service design system filter datastore and the policy event rule record in the design system rules datastore. It may be observed that a service plan component will always have a filter and a policy event rule. Assuming the traffic control policy is defined to include "detect" (in addition to allow, block, throttle, delay, defer, to name several), the service plan component can be defined as always including a traffic control policy, where "detect" does nothing more than trigger the policy event when the filter and policy event rule matches a traffic event. Assuming the notification policy is defined to include "none," the service plan component can be defined as always including a notification policy. Assuming the charging policy is defined to include "inherit," the service plan component can be defined as always including a charging policy, which is determined when the component is integrated into a plan from which it can inherit the charging policy.

[0092] In the example of FIG. 5, the flowchart 500 continues to decision point 514 where it is determined whether more filter instances are to be created. If it is determined that more filter instances are to be created (514-Y), then the flowchart returns to module 502 and continues as described previously (though at module 512, instead of creating a service plan component record, the service plan component record can be modified). If, on the other hand, it is determined that no more filter instances are to be created (514-N), then the flowchart 500 continues to decision point 516 where it is determined whether more policy event rule records corresponding to a filter record are to be created.

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[0093] If it is determined that more policy event rule records corresponding to a filter record are to be created (516-Y), then the flowchart 500 returns to module 508 and continues as described previously (though at module 512, instead of creating a service plan component record, the service plan component record can be modified). If, on the other hand, it is determined that no more policy event rule records corresponding to a filter record are to be created (516-N), then the flowchart 500 ends.

[0094] It may be noted that in a typical implementation, the method could be restarted at module 502, module 508, or module 512 if there is an other filter instance, policy event rule record, or service plan component record to be created. Therefore, the end is a logical end to the flowchart 500, but the process can continue as needed.

[0095] FIG. 6 depicts a flowchart 600 of an example of a method for creating service plans from service plan components. For illustrative purposes, it is assumed that filter instances, policy event rule records, and service plan component records that are going to be used in a service plan have already been created. It may be noted that none, some, or all of the filter instances, policy event rule records, and service plan component records could be created at any appropriate point (not depicted) in the flowchart 600. In a specific implementation, the filter instances and policy event rule records can be used at both the service plan component level (see, e.g., FIG. 5) and at the service plan level.

[0096] In the example of FIG. 6, the flowchart 600 continues to module 610 with creating a service plan record. The service plan record can include an icon for display on, e.g., subscriber devices, a plan name, a plan short description, a plan description, a plan version, a plan type (e.g., sponsored, paid, or carrier), whether the plan is a default plan, whether the plan is repurchaseable, a billing price, and a display price. Whether a policy label is displayed on a subscriber device can also be set. It may be noted that the service plan record could instead be

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created after all or a portion of the information associated with the following modules has been provided.

[0097] In the example of FIG. 6, the flowchart 600 continues to module 604 with setting charging policy for the service plan. The charging policy can be based on data or time usage and can have a usage limit, with or without overage of some amount, the billing policy cycle can be configured as appropriate (e.g., duration, frequency, report usage, pre- or post-paid billing, etc.). Whether billing identifiers are used (e.g., billing name, carrier service ID, etc.) can also be set. If charging codes are used, charging codes can also be identified and set to the default or not as is appropriate for the service plan. The charging policy can be inherited by service plan components of the plan that are configured to inherit the charging policy of the plan.

[0098] In the example of FIG. 6, the flowchart 600 continues to module 606 with hierarchically arranging service plan components in the service plan. The hierarchical arrangement can be explicit (e.g., by indicating priority in a field associated with a component) or implicit in the ordering of the components. In a specific implementation, the components also have service classes. For example, components could fall into the service classes carrier, network protection, sponsored, paid, parental control, marketing intercept, open access/bulk, post-bulk, and no applicable service plan/end-of-life. Thus, hierarchical arrangement of service plan components can refer to hierarchical arrangement of the service plan components relative to one another, to hierarchical arrangement of the service plan components within a service class relative to other service plan components in that service class, or to both.

[0099] Depending upon the implementation, service plan components can be designated to have a service class upon creation (or edit), or the component can be assigned to a service class when the component is added to the service plan. For example, a service plan component could be assigned to a "paid" service class, but could also function appropriately if assigned to a marketing intercept service class. Depending upon the implementation, the

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component could be designated "paid" upon creation and copied to create a similar "marketing intercept" component, or the component could be designated either paid or marketing intercept upon creation (or have no service class designation), and inserted into the relevant service class when arranged in a service plan. Thus, the hierarchical arrangement can be dynamic by service class (e.g., a designer can pick the class into which to arrange a component) or static by service class (e.g., the component is created within a service class). In a specific implementation, a service plan component with a static service class can be explicitly arranged by priority relative to other service plan components within the service class, a service plan component with a dynamically assigned service class can be explicitly arranged by priority relative to other service plan components within the service class, a service plan component with a static service class can be implicitly arranged by priority within the service class, and a service plan component with a dynamically assigned service class can be implicitly arranged by priority within the service class.

[00100] In the examples provided in this paper, the carrier service class is generally treated as the highest priority service class. Carrier plans will include basic network policy. In a specific implementation, carrier plans are automatically enforced on a subscriber device and are not offered in a plan catalog.

[00101] In the examples provided in this paper, the second highest priority service class, network protection, can be associated with policy designed to protect network resources (e.g., by detecting devices that are consuming too many network resources and throttling or blocking them). Network protection services can have variable billing policies that are selectable by a subscriber (e.g., to enable foreground processing as opposed to background processing, speed, etc.), but a subscriber may or may not have the ability to modify network protection policy, depending upon the implementation.

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[00102] In the examples provided in this paper, the third highest priority service class, sponsored, can be associated with service plans that are sponsored in whole or in part by an entity other than the subscriber. Partially sponsored plans can be referred to as subsidized, though the term "sponsored" is intended to include subsidized plans unless otherwise indicated by context. Depending upon the implementation and/or configuration, sponsored plans may or may not be optional. For example, an employee of a company may have a sponsored service plan that is applicable when the employee accesses the company intranet, and the employee may or may not be able to decline the sponsorship. As another example, facebook may subsidize network resource consumption when a subscriber accesses the facebook website, and the subscriber may or may not be able to decline the subsidy.

[00103] In the examples provided in this paper, the fourth highest priority service class, paid, can be associated with service plans that a subscriber purchases. It is generally the case that a subscriber will be given the option to purchase a paid service plan through, e.g., an actionable service offer. (An actionable service offer is a notification that includes a feedback mechanism, such as an accept button, that a subscriber can select to accept the service offer.) Service offers can be triggered by predefined conditions, such as when a subscriber attempts to do something that a plan would help. (Service offers can also be triggered for sponsored services.)

[00104] In the examples provided in this paper, the fifth highest priority service class, parental control, can be associated with service plans that a subscriber purchases or modifies in accordance with an authentication process. Parental control plans can be associated with multi- (or single-) device plans for which a primary subscriber can set policy. Depending upon the implementation, different devices of a multi-device plan can also have different sponsored and paid plans.

[00105] In the examples provided in this paper, the sixth highest priority service class, market interceptor, can be associated with service plans that are offered to a subscriber before the

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subscriber drops to the bulk policy service class. Market interceptor plans can include service offers that are favorable to open access policy in some way.

[00106] In the examples provided in this paper, the seventh highest priority service class, open access or bulk, can be associated with a catch-all service plan.

[00107] In the examples provided in this paper, the eighth highest priority service class, post-bulk, can be associated with service plans that can be activated in the event no other service plan is applicable. In a specific implementation, post-bulk plans are designed to offer a subscriber a last chance to activate a service plan for something that the subscriber is trying to do, but is unable due to no service plan being available. If the subscriber responds appropriately to a notification, the subscriber may activate a service plan (e.g., a paid service plan) relevant to a present activity.

[00108] In the examples provided in this paper, the ninth highest priority service class, end-of-life, is typically associated with a notification that no service plan is available for a detected traffic event.

[00109] It is not necessary to utilize all service classes to take advantage of a service class hierarchy in specific implementations. It is also possible to move a class up or down relative to other classes in the hierarchy. For example, the network protection class could be given a priority below paid service class.

[00110] In the example of FIG. 6, the flowchart 600 continues to module 608 with setting a plan-level policy event associated with a network state. As was described previously, each service plan component can have a traffic control policy, a notification policy, and a charging policy. Policy events can also be set at the plan level. In a specific implementation, the filters and rules that were created when creating service plan components can be reused at the plan level, and if filters and rules are created when creating the service plan (not depicted), then

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those filters and rules can, be used at the service plan component level. In a specific implementation, the policy events can be associated with a network state. Network state can refer to current or historical parameters (e.g., congestion, previous number of failed attempts to authenticate on the network, time of day, geographic location, type of network, device is roaming, etc.) Policy events can also be set to be applicable for any (i.e., regardless of) network state.

[00111] In the example of FIG. 6, the flowchart 600 ends at module 612 with storing the service plan record in a service design system service plan datastore. Advantageously, the service plan can be used in multiple service plan catalogs without modification. Alternatively, the service plan record could be cloned for use in various service plan catalogs with or without modification. Where versioning is used, deployed service plans can either be automatically updated to new versions (with a possible grandfathering-in of subscribers to service plan components from prior versions), or the service plans can be wholly or partially templated such that new versions of the service plan do not impact deployed service plan offerings. Depending upon the implementation, a designer can go back to any module to edit parameters (e.g., after reviewing the service plan and determining that a parameter should be changed).

[00112] A service design engine can use a process, such as the example provided with reference to FIG. 4, to create subscriber groups. The service design engine can also use a process, such as the example provided with reference to FIG. 6, to create service plans. The subscriber groups and service plans can be implemented in service plan catalogs that are provided to access networks for automatic or selective implementation. FIG. 7 depicts a flowchart 700 of an example of a method for creating service plan catalogs from subscriber groups and service plans.

[00113] In the example of FIG. 7, the flowchart 700 starts at module 702 with creating a service plan catalog record. The service plan catalog record can include a plan catalog name, a

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plan catalog description, a plan catalog version, or the like. It may be noted that the service plan catalog record could instead be created after all or a portion of the information associated with the following modules has been provided.

[00114] In the example of FIG. 7, the flowchart 700 continues to module 704 with adding plans to the service plan catalog record. In a specific implementation, the plans are stored as records in a service design system service plans datastore. In a specific implementation, the plans are represented in a list, and a designer can drag plans from the list into a chosen plans list using a service design system UI. Plans can be designated as available upon activation (or not).

[00115] In the example of FIG. 7, the flowchart 700 continues to module 706 with hierarchically arranging the service plans in the service plan catalog record. The plans can be arranged by priority relative to one another, which results in a higher priority plan being displayed and/or used first. The plans can also be arranged within a service class relative to other plans in the service class. Service class can be statically assigned to the plans when they are created (or edited) or dynamically assigned during the creation of the service plan catalog. Priorities can be explicit based on a priority indicator, implicit based on a relative location of a plan in the list of plans, or indicated in some other manner. In a specific implementation, a service design system UI enables a designer to drag a plan up or down a list of plans within service classes to establish priority, which is indicated by a priority number that corresponds to the relative order of a plan within a service class.

[00116] In the example of FIG. 7, the flowchart 700 continues to module 708 with optionally arranging plans within tabs for display with a service plan catalog offering. Tabs can include categories such as games, social, productivity, media, free, paid, all, or the like. An association between a tab and a plan can be formed such that the plan will be displayed under the associated tab when the service plan catalog offering is displayed, e.g., on a subscriber device.

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A plan can be associated with multiple tabs, and displayed under the multiple tabs. The order of the tabs can be configured, as can the order of the plans within tabs. In this paper, the order of the plans within a tab is not related to the priority of a plan, e.g., within a service class, though such a correlation could be made in alternative implementations.

[00117] In the example of FIG. 7, the flowchart 700 continues to module 710 with adding subscriber groups to the service plan catalog record. In a specific implementation, the subscriber groups are represented in a list, and a designer can drag plans from the list into a chosen subscriber groups list using a service design system UI. Other methods of adding subscriber groups are anticipated, such as, e.g., by identifying subscriber groups in accordance with subscriber characteristics.

[00118] When a service plan catalog is published, the subscriber groups associated with service plans in the service plan catalog identify the subscribers, whether automatically or by selecting the plan, that will have the policies of the relevant service plan enforced on their devices. Depending upon the implementation, publication of a plan can be in beta, which generally means the subscribers to the plan can have the plan changed with or without notice, or deployed, which generally means that subscribers can expect changes to future versions of the plan will not impact them until they need to repurchase the (new version of) the plan.

[00119] In the example of FIG. 7, the flowchart 700 continues to module 712 with configuring upsell offers. Upsell offers have notification policy that is associated with network state, device state, or subscriber state. For example, if a subscriber uses a great deal of streaming media in a bulk plan, it may be desirable to offer a streaming media plan that, based upon their current or historical usage, will save the subscriber money. As another example, a subscriber who is in a city with a wireless Municipal Area Network (MAN) might receive upsell offers associated with a using the wireless MAN. As another example, a subscriber who frequently accesses facebook can be offered a service plan that is sponsored by facebook, thereby decreasing service costs

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as long as the access is associated with facebook. As another example, a subscriber who frequently accesses a facebook competitor could be offered a service plan that is sponsored by facebook in an effort to draw the subscriber to facebook (because it is cheaper). As another example, if a subscriber is indicated to have a language preference of Japanese, an upsell offer could target that demographic (e.g., by offering a sponsored service to access an application that is popular among Japanese speakers). As another example, a subscriber who has a particular device state (e.g., the subscriber record includes data that the subscriber uses an iphone) can be targeted with an upsell offer that is popular with subscribers having such a device state.

[00120] Upsell offers can include a suite of all possible choices, or can be limited to offers that are more suitable to the specific historical usage of a particular subscriber. For example, if a subscriber typically consumes around 5 MB of data per unit of time, the system need not provide upsell offers for 10 MB, 100 MB, 1 GB, 10 GB, and 100 GB all at once (even though all might be offered), and instead send an upsell offer of 10 MB only (or, e.g., 10 MB and 100 MB). If usage for the subscriber increases, the subscriber can be notified regarding the larger-size service plans.

[00121] The upsell offer could alternatively be added to a service plan component, but in a specific implementation, it was deemed useful to modify upsell offers, even those that might be identified within a service plan component, at the service plan catalog level. In this way, standard upsell components of, e.g., a facebook plan, can be modified with appropriate notification or other configurations for a given service plan catalog or for specific subscriber groups.

[00122] In the example of FIG. 7, the flowchart 700 ends at module 714 with setting LCP error policy. An LCP error occurs when a traffic event is not matched to an applicable service plan policy. Setting an LCP error for a service plan catalog enables the LCP error to be handled

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in an elegant fashion (e.g., by sending a notification to a subscriber that the traffic event can be handled in accordance with an inactive service plan, the notification including an option for the subscriber to activate the inactive service plan). The LCP error notification policy could alternatively be added to a service plan component, but in a specific implementation, it was deemed useful to enable LCP error policy settings at the service plan catalog level because the LCP error policy always comes at the end of attempts to match all active plans in a service plan catalog offering. This results in improved service plan design efficiency. Depending upon the implementation, a designer can go back to any module to edit parameters (e.g., after reviewing the service plan catalog and determining that a parameter should be changed).

[00123] FIG. 8 depicts an example of system 800 including an access network and a network service plan provisioning sandbox system. The system 800 includes an access network 802 and a network service plan provisioning system 804. The access network 802 is similar to that described with reference to FIG. 1.

[00124] In the example of FIG. 8, the network service plan provisioning system 804 includes a service design center 806 and a service design sandbox 808. Conceptually, the service design center 806 and the service design sandbox 808 share design and/or provisioning responsibilities. The service design center 806 and the service design sandbox 808 can be hierarchically organized. For example, the service design center 806 can delegate certain roles to the service design sandbox 808 and perhaps retains an oversight capability for agents of the service design center 806. For example, the service design sandbox 808 can be given the ability to impact policy control to a subset of subscriber groups of the network service plan provisioning system 804. The network service plan provisioning system 804 can be referred to as "distributed" in this example.

[00125] Some examples of entities that might desire to include the service design sandbox 808 in their networks include enterprises with employees that consume network services,

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MVNOs, application developers, gifters, and community-based organizations. In the case of enterprises with employees that consume network services, the service design sandbox 808 can enable fine-tuned control over traffic control and charging policy (as well as notification policy). Assume that XYZ company controls the service design sandbox 808. XYZ company can create a service plan specific to XYZ company network services on the XYZ company intranet, which will be referred to as the XYZ plan. Specifically, the XYZ company can sponsor the XYZ company network services on the XYZ company intranet for XYZ company employees. A paid plan offered by a carrier that controls the service design center 806, for example, can still be available for XYZ company employees that are using other network services (or XYZ company could partially sponsor a subset of the other network services). The XYZ plan could also include a component that prevents XYZ company employees from accessing certain restricted sites through the XYZ company intranet and has notification policy associated with the attempted access. Continuing the example, an agent (e.g., IT manager) of the XYZ company can define subscriber groups that comprise XYZ company members and assign different service plans (e.g., different traffic control, notification, or charging policies) to the different XYZ company subscriber groups. For example, employees could get limited usage, managers might get access to more usage and additional services (e.g., email), members of the sales team might get better roaming services, and a CEO might get everything in the carrier's service plan offering, perhaps with XYZ company as a sponsor for all services. Advantageously, split-billing is possible using these techniques, such that XYZ company can pay for sponsored services and XYZ employees can pay for unsponsored services (or for a portion of subsidized services).

[00126] In the case of MVNOs, an MVNO can purchase bulk data from a carrier and offer plans based on the bulk. Advantageously for MVNOs, the service design sandbox 808 enables control over subscribers based on, e.g., network state. Indeed, for all subscribers "owned" by the MVNO, a great deal of policy control can be applied (dependent upon the amount of control

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a carrier is willing to give to the MVNO). Other providers that can benefit from the sandbox model include mobile virtual network enablers (MVNEs), mobile shared spectrum enablers (MSSEs), and service providers (SPs).

[00127] In the case of application developers, the service design sandbox 808 can specify applications that can be covered by a service plan. The service design center 806 may or may not be responsible for creating the underlying control mechanism. For example, a company like amazon.com can be given some control over sponsorship settings for applications associated with amazon.com.

[00128] In the case of gifters, the service design sandbox 808 can enable specification of a sponsorship amount that is donated to some other organization, such as a non-profit organization. In the case of community-based organizations, the service design sandbox 808 can specify free access for a particular network service. For example, the San Francisco Giants organization could have a plan group for fans that grants free access to the official site of the San Francisco Giants. As another example, AAA could sponsor access to services for AAA members.

[00129] Agents of the network service plan provisioning system can be given roles that grant access to certain aspects of service design and/or provisioning. For example, agents at the service design center 806 can have a role system administrator, super user, or the like, while agents of the service design sandbox 808 can have roles such as enterprise IT manager, MVNO administrator, or the like. Agents of the service design sandbox 808 can subdivide roles further, if applicable, depending upon implementation.

[00130] FIG. 9 depicts a conceptual diagram 900 of an example of a service design system sandbox implementation. The conceptual diagram 900 includes a carrier network 902, existing network, IT, and billing infrastructure 904 (referred to as infrastructure 904), the Internet 906, a service processor 908, a service controller 910, an operator service design center (SDC) 912,

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and a partner SDC sandbox 914. In the example of FIG. 9, the carrier network is coupled to the Internet 906 via the infrastructure 904.

[00131] The service processor 908 can be implemented on a client device on the carrier network 902. In a specific implementation, the service processor 908 includes a service control device link. For example, as device based service control techniques involving supervision across a network become more sophisticated, it becomes increasingly important to have an efficient and flexible control plane communication link between the device agents and the network elements communicating with, controlling, monitoring, or verifying service policy. In some embodiments, the service control device link provides the device side of a system for transmission and reception of service agent to/from network element functions. In some embodiments, the traffic efficiency of this link is enhanced by buffering and framing multiple agent messages in the transmissions. In some embodiments, the traffic efficiency is further improved by controlling the transmission frequency or linking the transmission frequency to the rate of service usage or traffic usage. In some embodiments, one or more levels of security or encryption are used to make the link robust to discovery, eavesdropping or compromise. In some embodiments, the service control device link also provides the communications link and heartbeat timing for the agent heartbeat function. The service control device link can provide an efficient and secure solution for transmitting and receiving service policy implementation, control, monitoring and verification information with other network elements.

[00132] In a specific implementation, a client dashboard is presented in a display device by the service processor 908. The client dashboard can include the following menus: services (purchased, data usage), statistics (applications consuming data, data used in absolute terms or as a %), buy (navigates subscriber through activation, enrollment, plan selection, and purchase workflows), help, and settings (preferences, e.g., language).

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[00133] The service controller 910 can be implemented, e.g., in the cloud, and is coupled to the infrastructure 904.

[00134] The operator SDC 912 is on the Internet, and is coupled to the service controller. The operator SDC 912 can set up boundaries for "sandboxed" service and allow customizations for partner sets; lock in master tariffs based on negotiated rates for a given partner set or individual partner; create custom log-ins for different partner sets or individual partners; and carry out any applicable techniques appropriate for a service design system. The operator SDC 912 allows authorized agents to manage service plan components and subscribers. The agents can manage groups (collections of subscribers, SIMs, or devices) to create groups and group directories, assign an identity hierarchy for the operator, associated identifiers with groups, etc. The agents can manage service plans (including one or more components) including plan name and description, groups using the plan, service plan components, service activities, network busy states and connection types, charging policies (including usage limits, thresholds, frequency, time, and payment type), notifications (e.g., for plan usage thresholds, plan cap, expiration, block, overage, no capable plan, etc.), and events (e.g., for plan usage thresholds, plan cap, expiration, block, overage, etc.). The agents can manage service components (logical grouping of one or more filters and rules), including component name and description, plans using the component, network busy states and connection types, charging policies (including usage limits, thresholds, frequency, time and payment type), notifications (e.g., for plan usage thresholds, plan cap, expiration, block, overage, no capable plan, etc.), and events (e.g., for plan usage thresholds, plan cap, expiration, block, overage, etc.). The agents can manage service activities (e.g., activity name, plans using the activity, components using the activity, filter name and description, and filter type details (e.g., operating system, application, remote, port, protocol, etc.). The agents can manage service group plans including assign and publish plan group, create activation workflow screens, create buy workflow screens. The agents can

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receive, manage, customize, or generate reports for, for example, usage reports by destination for a subscriber over a period of time, usage reports by destination for a range of subscribers over a period of time (top destinations).

[00135] The partner SDC sandbox 914 is coupled to the operator SDC 912 in an applicable convenient fashion. The partner SDC sandbox 914 can provide a secure login environment in which a subset of SDC service management controls can be designed and/or used; enable selection from bounded service customization options for one or more device groups under management; customize device UI branding; access real time analytics for service usage, application usage, location, etc.; set up service usage alerts, fraud alerts, theft alerts, etc.; and carry out any applicable techniques appropriate for a service design system that have been delegated to the sandboxed environment.

[00136] The service controller 910 includes a service control server link. In some a specific implementation, device based service control techniques involving supervision across a network (e.g., on the control plane) are more sophisticated, and for such it is increasingly important to have an efficient and flexible control plane communication link between the device agents (e.g., of the service processor 908) and the network elements (e.g., of the service controller 910) communicating with, controlling, monitoring, or verifying service policy. For example, the communication link between the service control server link of service controller 910 and the service control device link of the service processor 910 can provide an efficient and flexible control plane communication link, a service control link; in some embodiments, this control plane communication link provides for a secure (e.g., encrypted) communications link for providing secure, bidirectional communications between the service processor 908 and the service controller 910. In some embodiments, the service control server link provides the network side of a system for transmission and reception of service agent to/from network element functions. In some embodiments, the traffic efficiency of this link is enhanced by

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buffering and framing multiple agent messages in the transmissions (e.g., thereby reducing network chatter). In some embodiments, the traffic efficiency is further improved by controlling the transmission frequency and/or linking the transmission frequency to the rate of service usage or traffic usage. In some embodiments, one or more levels of security and/or encryption are used to secure the link against potential discovery, eavesdropping or compromise of communications on the link. In some embodiments, the service control server link also provides the communications link and heartbeat timing for the agent heartbeat function. In some embodiments, the service control server link provides for securing, signing, encrypting and/or otherwise protecting the communications before sending such communications over the service control link. For example, the service control server link can send to the transport layer or directly to the link layer for transmission. In another example, the service control server link further secures the communications with transport layer encryption, such as TCP TLS or another secure transport layer protocol. As another example, the service control server link can encrypt at the link layer, such as using IPSEC, various possible VPN services, other forms of IP layer encryption and/or another link layer encryption technique.

[00137] In a specific implementation, the service controller 910 can include an access control integrity server (e.g., service policy security server). In some embodiments, the access control integrity server collects device information on service policy, service usage, agent configuration, and/or agent behavior. For example, the access control integrity server can cross check this information to identify integrity breaches in the service policy implementation and control system. In another example, the access control integrity server can initiate action when a service policy violation (e.g., QoS policy violation and/or a network capacity controlled services policy violation) or a system integrity breach is suspected.

[00138] In a specific implementation, an agent of the service controller 910 (and/or some other agent of the access control integrity server) acts on access control integrity agent (e.g.,

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service policy security agent) reports and error conditions. Many of the access control integrity agent checks can be accomplished by the server. For example, the access control integrity agent checks include one or more of the following: service usage measure against usage range consistent with policies (e.g., usage measure from the network and/or from the device); configuration of agents; operation of the agents; and/or dynamic agent download.

[00139] In a specific implementation, an agent of the service controller 910 (and/or some other agent of the access control integrity server) verifies device service policy implementations by comparing various service usage measures (e.g., based on network monitored information, such as by using IPDRs or CDRs, and/or local service usage monitoring information) against expected service usage behavior given the policies that are intended to be in place (e.g., a QoS policy and/or a network capacity controlled services policy). For example, device service policy implementations can include measuring total QoS data passed, QoS data passed in a period of time, IP addresses, data per IP address, and/or other measures such as location, downloads, email accessed, URLs, and comparing such measures expected service usage behavior given the policies that are intended to be in place.

[00140] In a specific implementation, an agent of the service controller 910 (and/or some other agent of the access control integrity server) verifies device service policy, and the verification error conditions that can indicate a mismatch in QoS service measure and QoS service policy include one or more of the following: unauthorized network access (e.g., access beyond ambient service policy limits); unauthorized network speed (e.g., average speed beyond service policy limit); network data amount does not match QoS policy limit (e.g., device not stop at limit without re-up/revising service policy); unauthorized network address; unauthorized service usage (e.g., VOIP, email, and/or web browsing); unauthorized application usage (e.g., email, VOIP, email, and/or web); service usage rate too high for plan, and policy controller not controlling/throttling it down; and/or any other mismatch in service measure and service policy.

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Accordingly, in some embodiments, an agent of the service controller 910 (and/or some other agent of the access control integrity server) provides a policy/service control integrity service to continually (e.g., periodically and/or based on trigger events) verify that the service control of the device has not been compromised and/or is not behaving out of policy (e.g., a QoS policy and/or a network capacity controlled services policy).

[00141] In a specific implementation, the service controller 910 includes a service history server (e.g., charging server). In some embodiments, the service history server collects and records service usage or service activity reports from, e.g., an access network AAA server and/or a service monitor agent of the service controller 910. For example, although service usage history from the network elements can in certain embodiments be less detailed than service history from the device, the service history from the network can provide a valuable source for verification of device service policy implementation, because, for example, it is extremely difficult for a device error or compromise event on the device to compromise the network based equipment and software. For example, service history reports from the device can include various service tracking information, as similarly described above. In some embodiments, the service history server provides the service history on request to other agents of the service controller 910, other servers, and/or one or more other agents. In some embodiments, the service history server provides the service usage history to the device service history (e.g., CDR feed and CDR mediation). In some embodiments, for purposes of facilitating the activation tracking service functions (described below), the service history server maintains a history of which networks the device has connected to. For example, this network activity summary can include a summary of the networks accessed, activity versus time per connection, and/or traffic versus time per connection. As another example, this activity summary can further be analyzed or reported to estimate the type of service plan associated with the traffic activity for the purpose of bill sharing reconciliation.

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[00142] In a specific implementation, the service controller 910 includes a policy management server (e.g., policy decision point (PDP) server) for managing service usage policies, such as QoS policies and/or a network capacity controlled services policies. In some embodiments, the policy management server transmits policies to the service processor 908 via the service control link. In some embodiments, the policy management server manages policy settings on the device (e.g., various policy settings as described herein with respect to various embodiments) in accordance with a device service profile. In some embodiments, the policy management server sets instantaneous policies on policy implementation agents (e.g., policy implementation agent). For example, the policy management server can issue policy settings, monitor service usage and, if necessary, modify policy settings. For example, in the case of a user who prefers for the network to manage their service usage costs, or in the case of any adaptive policy management needs, the policy management server can maintain a relatively high frequency of communication with the device to collect traffic and/or service measures and issue new policy settings. In this example, device monitored service measures and any user service policy preference changes are reported, periodically and/or based on various triggers/events/requests, to the policy management server. In this example, user privacy settings generally require secure communication with the network (e.g., a secure service control link), such as with the policy management server, to ensure that various aspects of user privacy are properly maintained during such configuration requests/policy settings transmitted over the network. For example, information can be compartmentalized to service policy management and not communicated to other databases used for CRM for maintaining user privacy.

[00143] In some embodiments, the policy management server provides adaptive policy management on the device. For example, the policy management server can issue policy settings and objectives and rely on the device based policy management (e.g., service processor 908) for some or all of the policy adaptation. This approach can require less

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interaction with the device thereby reducing network chatter on the service control link for purposes of device policy management (e.g., network chatter is reduced relative to various server/network based policy management approaches described above). This approach can also provide robust user privacy embodiments by allowing the user to configure the device policy for user privacy preferences/settings so that, for example, sensitive information (e.g., geo-location data, website history, and/or other sensitive information) is not communicated to the network without the user's approval. In some embodiments, the policy management server adjusts service policy based on time of day. In some embodiments, the policy management server receives, requests, and/or otherwise obtains a measure of network availability/capacity and adjusts traffic shaping policy and/or other policy settings based on available network availability/capacity (e.g., a network busy state).

[00144] In a specific implementation, the service controller 910 includes a network traffic analysis server. In some embodiments, the network traffic analysis server collects/receives service usage history for devices and/or groups of devices and analyzes the service usage. In some embodiments, the network traffic analysis server presents service usage statistics in various formats to identify improvements in network service quality and/or service profitability. In some embodiments, the network traffic analysis server estimates the service quality and/or service usage for the network under variable settings on potential service policies. In some embodiments, the network traffic analysis server identifies actual or potential service behaviors by one or more devices that are causing problems for overall network service quality or service cost. In some embodiments, the network traffic analysis server estimates the network availability/capacity for the network under variable settings on potential service policies. In some embodiments, the network traffic analysis server identifies actual or potential service behaviors by one or more devices that are impacting and/or causing problems for overall network availability/capacity.

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[00145] In a specific implementation, the service controller 910 includes a beta test server (e.g., policy creation point and beta test server). In some embodiments, the beta test server publishes candidate service plan policy settings to one or more devices. In some embodiments, the beta test server provides summary reports of network service usage or user feedback information for one or more candidate service plan policy settings. In some embodiments, the beta test server provides a mechanism to compare the beta test results for different candidate service plan policy settings or select the optimum candidates for further policy settings optimization, such as for protecting network capacity.

[00146] In a specific implementation, the service controller 910 includes a service download control server (e.g., a service software download control server). In some embodiments, the service download control server provides a download function to install and/or update service software elements (e.g., the service processor 908 and/or agents/components of the service processor 908) on the device, as described herein.

[00147] In a specific implementation, the service controller 910 includes a billing event server (e.g., micro-CDR server). In some embodiments, the billing event server collects billing events, provides service plan information to the service processor 908, provides service usage updates to the service processor 908, serves as interface between device and central billing server, and/or provides trusted third party function for certain ecommerce billing transactions.

[00148] In a specific implementation, the service processor 908 provides an additional layer of access control. For example, an access network AAA server can provide necessary access network AAA services (e.g., access control and authorization functions for the device access layer) to allow the devices onto the central provider access network and the service provider network. In some embodiments, another layer of access control is required for the device to gain access to other networks, such as the Internet, a corporate network and/or a machine to machine network. In some embodiments, the Access Network AAA server also provides the

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ability to suspend service for a device and resume service for a device based on communications received from the service controller 910. In some embodiments, the Access Network AAA server also provides the ability to direct routing for device traffic to a quarantine network or to restrict or limit network access when a device quarantine condition is invoked. In some embodiments, the Access Network AAA server also records and reports device network service usage.

[00149] In some embodiments, different profiles are selected based on the selected network connection (e.g., different service profiles/policies for WWAN, WLAN, WPAN, Ethernet and/or DSL network connections), which can be referred to as multimode profile setting. For example, service profile settings can be based on the actual access network (e.g., home DSL/cable or work network) behind the Wi-Fi not the fact that it is Wi-Fi (e.g., or any other network, such as DSL/cable, satellite, or T-1), which is viewed as different than accessing a Wi-Fi network at the coffee shop. For example, in a Wi-Fi hotspot situation in which there are a significant number of users on a DSL or T-1 backhaul, the service controller can sit in a service provider cloud or an MVNO cloud, the service controls can be provided by a VSP capability offered by the service provider or the service controller 910 can be owned by the hotspot service provider that uses the service controller 910 on their own without any association with an access network service provider. For example, the service processor 908 can be controlled by the service controller 910 to divide up the available bandwidth at the hotspot according to QoS or user sharing rules (e.g., with some users having higher differentiated priority (e.g., potentially for higher service payments) than other users). As another example, ambient services (e.g., as similarly described herein) can be provided for the hotspot for verified service processors.

[00150] In some embodiments, the service processor 908 and service controller 910 are capable of assigning multiple service profiles associated with multiple service plans that the user chooses individually or in combination as a package. For example, a device starts with

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ambient services that include free transaction services wherein the user pays for transactions or events rather than the basic service (e.g., a news service, eReader, PND service, pay as you go session Internet) in which each service is supported with a bill by account capability to correctly account for any subsidized partner billing to provide the transaction services (e.g., Barnes and Noble may pay for the eReader service and offer a revenue share to the service provider for any book or magazine transactions purchased from the device). In some embodiments, the bill by account service can also track the transactions and, in some embodiments, advertisements for the purpose of revenue sharing, all using the service monitoring capabilities disclosed herein. After initiating services with the free ambient service discussed above, the user may later choose a post-pay monthly Internet, email, and SMS service. In this case, the service controller 910 would obtain from the billing system in the case of network based billing (e.g., or the service controller 910 billing event server in the case of device based billing) the billing plan code for the new Internet, email and SMS service. In some embodiments, this code is cross referenced in a database (e.g., the policy management server) to find the appropriate service profile for the new service in combination with the initial ambient service. The new superset service profile is then applied so that the user maintains free access to the ambient services, and the billing partners continue to subsidize those services, the user also gets access to Internet services and may choose the service control profile (e.g., from one of the embodiments disclosed herein). The superset profile is the profile that provides the combined capabilities of two or more service profiles when the profiles are applied to the same device service processor. In some embodiments, the service processor 908 can determine the superset profile rather than the service controller 910 when more than one "stackable" service is selected by the user or otherwise applied to the device. The flexibility of the service processor 908 and service controller 910 embodiments described herein allow for a large variety of service profiles to be defined and applied individually or as a superset to achieve the desired device service features.

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[00151] In some embodiments, device assisted services (DAS) techniques for providing an activity map for classifying or categorizing service usage activities to associate various monitored activities (e.g., by URL, by network domain, by website, by network traffic type, by application or application type, and/or any other service usage activity categorization/classification) with associated IP addresses are provided. In some embodiments, a policy control agent, service monitor agent (e.g., charging agent), or another agent or function (or combinations thereof) of the service processor 908 provides a DAS activity map. In some embodiments, a policy control agent, service monitor agent, or another agent or function (or combinations thereof) of the service processor provides an activity map for classifying or categorizing service usage activities to associate various monitored activities (e.g., by Uniform Resource Locator (URL), by network domain, by website, by network traffic type, by socket (such as by IP address, protocol, and/or port), by socket id (such as port address/number), by port number, by content type, by application or application type, and/or any other service usage activity classification/categorization) with associated IP addresses and/or other criteria/measures. In some embodiments, a policy control agent, service monitor agent, or another agent or function (or combinations thereof) of the service processor determines the associated IP addresses for monitored service usage activities using various techniques to snoop the DNS request(s) (e.g., by performing such snooping techniques on the device 100 the associated IP addresses can be determined without the need for a network request for a reverse DNS lookup). In some embodiments, a policy control agent, service monitor agent, or another agent or function (or combinations thereof) of the service processor records and reports IP addresses or includes a DNS lookup function to report IP addresses or IP addresses and associated URLs for monitored service usage activities. For example, a policy control agent, service monitor agent, or another agent or function (or combinations thereof) of the service processor can determine the associated IP addresses for monitored service usage activities using various techniques to perform a DNS lookup function (e.g., using a local DNS cache on

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the monitored device). In some embodiments, one or more of these techniques are used to dynamically build and maintain a DAS activity map that maps, for example, URLs to IP addresses, applications to IP addresses, content types to IP addresses, and/or any other categorization/classification to IP addresses as applicable. In some embodiments, the DAS activity map is used for various DAS traffic control and/or throttling techniques as described herein with respect to various embodiments for providing QoS for DAS and/or for providing DAS for protecting network capacity. In some embodiments, the DAS activity map is used to provide the user various UI related information and notification techniques related to service usage as described herein with respect to various embodiments. In some embodiments, the DAS activity map is used to provide service usage monitoring, prediction/estimation of future service usage, service usage billing (e.g., bill by account and/or any other service usage/billing categorization techniques), DAS techniques for ambient services usage monitoring, DAS techniques for generating micro-CDRs, and/or any of the various other DAS related techniques as described herein with respect to various embodiments.

[00152] FIG. 10 depicts a conceptual diagram 1000 of an example of a service design system sandbox implementation. The components of FIG. 10 are similar to those depicted in FIG. 9. FIG. 10 is intended to illustrate that various sandboxes can be created for a variety of purposes. In the example of FIG. 10, the sandboxes 1014 include sponsored apps & websites sandboxes 1014-1, enterprise IT manager sandboxes 1014-2, machine-to-machine (M2M) & virtual service provider (VSP) (MVNO) partner sandboxes 1014-3, device OEM & media provider sandboxes 1014-4, parental control & multi-device sandboxes 1014-5, etc. A common service controller cloud service software implemented at the service controller 1010 and server processor device client software implemented at the service processor 1008 allows operators and partners to scale customized user experiences and service plan policies.

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[00153] In some embodiments, a network service usage control policy is dynamic based on one or more of the following: a network busy state, a time of day, which network the service activity is connected to, which base station or communication channel the service activity is connected to, a user input, a user preference selection, an associated service plan, a service plan change, an application behavior, a messaging layer behavior, random back off, a power state of device, a device usage state, a time based criteria (e.g., time/day/week/month, hold/delay/defer for future time slot, hold/delay/defer for scheduled time slot, and/or hold/delay/defer until a busy state/availability state/QoS state is achieved), monitoring of user interaction with the service activity, monitoring of user interaction with the device, the state of UI priority for the service activity, monitoring the power consumption behavior of the service activity, modem power cycling or power control state changes, modem communication session set up or tear down, and/or a policy update/modification/change from the network. In some embodiments, the network service usage control policy is based on updated service usage behavior analysis of the network service usage activity. In some embodiments, the network service usage control policy is based on updated activity behavior response to a network capacity controlled service classification. In some embodiments, the network service usage control policy is based on updated user input/preferences (e.g., related to policies/controls for network capacity controlled services). In some embodiments, the network service usage control policy is based on updates to service plan status. In some embodiments, the network service usage control policy is based on updates to service plan policies. In some embodiments, the network service usage control policy is based on availability of alternative networks. In some embodiments, the network service usage control policy is based on policy rules for selecting alternative networks. In some embodiments, the network service usage control policy is based on network busy state or availability state for alternative networks. In some embodiments, the network service usage control policy is based on specific network selection or preference policies for a given network service activity or set of network service activities.

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[00154] In some embodiments, associating the network service usage activity with a network service usage control policy or a network service usage notification policy, includes dynamically associating based on one or more of the following: a network busy state, a time of day, a user input/preference, an associated service plan (e.g., 25 MB data plan, 5G data plan, or an unlimited data plan or other data/service usage plan), an application behavior, a messaging layer behavior, a power state of device, a device usage state, a time based criteria, availability of alternative networks, and a set of policy rules for selecting and/or controlling traffic on one or more of the alternative networks.

[00155] In some embodiments, a network service usage control policy (e.g., a network capacity controlled services policy) includes defining the network service usage control policy for one or more service plans, defining network access policy rules for one or more devices or groups of devices in a single or multi-user scenarios such as family and enterprise plans, defining network access policy rules for one or more users or groups of users, allowing or disallowing network access events or attempts, modulating the number of network access events or attempts, aggregating network access events or attempts into a group of access events or attempts, time windowing network access events or attempts, time windowing network access events or attempts based on the application or function being served by the network access events or attempts, time windowing network access events or attempts to pre-determined time windows, time windowing network access events or attempts to time windows where a measure of network busy state is within a range, assigning the allowable types of access events or attempts, assigning the allowable functions or applications that are allowed network access events or attempts, assigning the priority of one or more network access events or attempts, defining the allowable duration of network access events or attempts, defining the allowable speed of network access events or attempts, defining the allowable network destinations for network access events or attempts, defining the allowable applications for

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network access events or attempts, defining the QoS rules for one or more network access events or attempts, defining or setting access policy rules for one or more applications, defining or setting access policy rules for one or more network destinations, defining or setting access policy rules for one or more devices, defining or setting access policy rules for one or more network services, defining or setting access policy rules for one or more traffic types, defining or setting access policy rules for one or more QoS classes, and defining or setting access policy rules based on any combination of device, application, network destination, network service, traffic type, QoS class, and/or other criteria/measures.

[00156] In some embodiments, a network service usage control policy (e.g., a network capacity controlled services policy) includes a traffic control policy. In some embodiments, the traffic control policy includes a traffic control setting. In some embodiments, the traffic control policy includes a traffic control/tier, and the traffic control/tier includes the traffic control setting. In some embodiments, the traffic control policy includes one or more of the following: block/allow settings, throttle settings, adaptive throttle settings, QoS class settings including packet error rate, jitter and delay settings, queue settings, and tag settings (e.g., for packet tagging certain traffic flows). In some embodiments, QoS class settings, include one or more of the following: throttle level, priority queuing relative to other device traffic, time window parameters, and hold or delay while accumulating or aggregating traffic into a larger stream/burst/packet/group of packets. In some embodiments, the traffic control policy includes filters implemented as indexes into different lists of policy settings (e.g., using cascade filtering techniques), in which the policy filters include one or more of the following: a network, a service plan, an application, a time of day, and a network busy state. For example, a two dimensional traffic control implementation scheme can be provided using a network busy state and/or a time of day as an index into a traffic control setting (e.g., a certain application's priority level can be increased or decreased based on a network busy state and/or time of day). In some

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embodiments, the traffic control policy is used for selecting the network from a list of available networks, blocking or reducing access until a connection is made to an alternative network, and/or modifying or replacing a network stack interface of the device to provide for intercept or discontinuance of network socket interface messages to applications or OS functions.

[00157] In some embodiments, a traffic control setting is selected based on the network service usage control policy. In some embodiments, the traffic control setting is implemented on the device based on the network service usage control policy. In some embodiments, the implemented traffic control setting controls traffic/traffic flows of a network capacity controlled service. In some embodiments, the traffic control setting is selected based on one or more of the following: a time of day, a day of week, a special time/date (e.g., a holiday or a network maintenance time/date), a network busy state, a priority level associated with the network service usage activity, a QoS class associated with the network service usage activity (e.g., emergency traffic), which network the network service activity is gaining access from, which networks are available, which network the network service activity is connected to, which base station or communication channel the network service activity is connected to, and a network dependent set of traffic control policies that can vary depending on which network the service activity is gaining access from (e.g., and/or various other criteria/measures as described herein). In some embodiments, the traffic control setting includes one or more of the following: allow/block, delay, throttle, QoS class implementation, queue, tag, generate a user notification, random back off, clear to send received from a network element, hold for scheduled transmission time slot, selecting the network from the available networks, and blocking or reducing access until a connection is made to an alternative network. In some embodiments, the traffic control setting is selected based on a network capacity controlled services priority state of the network service usage activity and a network busy state. In some embodiments, the traffic control setting is selected based on a network capacity controlled services priority state of

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the network service usage activity and a network busy state and is global (e.g., the same) for all network capacity controlled services activities or varies based on a network service usage activity priority, user preferences or option selection, an application, a time based criteria, a service plan, a network the device or service activity is gaining access from, a redetermination of a network congestion state after adapting to a previously determined network busy state, and/or other criteria/measures as described herein.

[00158] In some embodiments, network capacity controlled services traffic (e.g., traffic flows) is differentially controlled for protecting network capacity. For example, various software updates for an OS and one or more applications on the device can be differentially controlled using the various techniques described herein. As another example, security/antimalware software (e.g., antivirus, firewall, content protection, intrusion detection/prevention, and/or other security/antimalware software) can be differentially controlled using the various techniques described herein. As yet another example, network backups/imaging, content downloads (e.g., exceeding a threshold individually and/or in aggregate, such as for image, music, video, eBook content, email attachments, content/media subscriptions, RSS/news feeds, text/image/video chat, software updates, and/or other content downloads) can be differentially controlled using the various techniques described herein.

[00159] For example, using the DAS for protecting network capacity techniques described herein an adaptive policy control for protecting network capacity can be provided. A network capacity controlled services list can be generated, updated, reported, and/or received by the device and stored on the device (e.g., the list can be based on adapted to the service plan associated with the device). If a monitored network service usage activity is not on the list, then the device can report the monitored network service usage activity to a network element (e.g., for a monitored network service usage activity that also exceeds a certain threshold, based on a network busy state, based on a time based criteria, and/or other criteria/measure). As an

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example, monitored network service usage activity can be reported if/when the monitored network service usage activity exceeds a data usage threshold (e.g., 50 MB total data usage per day, a socket opening frequency/rate, velocity of data usage at an instant in time, or more complicated thresholds over time, over peak periods, by content and time, by various other parameters/thresholds). As another example, the monitored network service usage activity can be reported based on testing of the network service usage behavior and/or application developer characterization input. The report can include information that identifies the network service usage activity and various network service usage parameters.

[00160] In some embodiments, a notification setting is selected based on a service usage notification policy. In some embodiments, a notification setting includes a user notification setting (e.g., various user notifications settings as described above with respect to Figure 18).

[00161] In some embodiments, classifying the network service usage activity further includes classifying the network service usage activity (e.g., using a usage threshold filter and/or cascading filter techniques) into one or more of a plurality of classification categories for differential network access control for protecting network capacity. In some embodiments, classifying the network service usage activity, further includes classifying the network service usage activity into one or more network capacity controlled services in which the network capacity controlled services include one or more of the following: applications requiring data network access, application software updates, applications requiring network information, applications requiring GPS or physical location, operating system software updates, security software updates, network based backups, email downloads, and a set of activities configured as network capacity controlled service activities based on a service profile and/or user input (e.g., and/or various other types of network service usage activities as described herein and as will now be apparent to one of ordinary skill in the art). For example, network capacity controlled services can include software updates for OS and applications, OS background

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network accesses, cloud synchronization services, RSS feeds & other background information feeds, browser/application/device behavior reporting, background email downloads, content subscription service updates and downloads (e.g., music/video downloads, news feeds), text/voice/video chat clients, security updates (e.g., antimalware updates), peer to peer networking application updates, inefficient network access sequences during frequent power cycling or power save state cycling, large downloads or other high bandwidth accesses, and greedy application programs that constantly/repeatedly access the network with small transmissions or requests for information. In some embodiments, a network capacity controlled services list is static, adaptive, generated using a service processor, received from a network element (e.g., service controller or service cloud), received from a network element (e.g., service controller or service cloud) and based at least in part on device activity reports received from the service processor, based on criteria set by pre-testing, report of behavior characterization performed by the application developer, and/or based at least in part on user input. In some embodiments, the network capacity controlled services list includes one or more network service activity background (QoS) classes.

[00162] In some embodiments, classifying the network service usage activity further includes classifying the network service usage activity based on one or more of the following: application or widget (e.g., Outlook, Skype, iTunes, Android email, weather channel weather widget, iCal, Firefox Browser, etc), application type (e.g., user application, system application/utility/function/process, OS application/utility/function/process, email, browser, widget, malware (such as a virus or suspicious process), RSS feed, device synchronization service, download application, network backup/imaging application, voice/video chat, peer to peer content application or other peer to peer application, streaming media feed or broadcast reception/transmission application, network meeting application, chat application or session, and/or any other application or process identification and categorization), OS/system function

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(e.g., any system application/utility/function/process and/or OS application/utility/function/process, such as a OS update and/or OS error reporting), modem function, network communication function (e.g., network discovery or signaling, EtherType messages, connection flow/stream/session set up or tear down, network authentication or authorization sequences, IP address acquisition, and DNS services), URL and/or domain, destination/source IP address, protocol, traffic type, socket (e.g., IP address, protocol, and/or port), socket address/label/identifier (e.g., port address/port number), content type (e.g., email downloads, email text, video, music, eBooks, widget update streams, and download streams), port (e.g., port number), QoS classification level, time of day, on peak or off peak, network time, network busy state, access network selected, service plan selected, user preferences, device credentials, user credentials, and/or status, modem power cycling or power state changes, modem authentication processes, modem link set up or tear down, modem management communications, modem software or firmware updates, modem power management information, device power state, and modem power state. In some embodiments, classifying the network service usage activity further includes associating the classified network service usage activity with an ID (e.g., an application ID, which can be, for example, a unique number, name, and/or signature). In some embodiments, classifying the network service usage activity further includes classifying the network service usage activity using a plurality of classification parameters, including one or more of the following: application ID, remote IP (e.g., URL, domain, and/or IP address), remote port, protocol, content type, a filter action class (e.g., network busy state class, QoS class, time of day, network busy state, and/or other criteria/measures), and access network selected. In some embodiments, classifying the network service usage activity further includes using a combination of parameters as discussed above to determine the classification of the network service usage activity.

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[00163] In some embodiments, classifying the network service usage activity further includes classifying the network service usage activity as a network capacity controlled service, a non-network capacity controlled service, a blocked or disallowed service, and/or a not yet classified/identified service (e.g., unknown/yet to be determined classification or pending classification). In some embodiments, an application connection, OS connection, and/or other service activity is classified as a network capacity controlled service activity when the device has been inactive (e.g., or in a power save state) for a period of time (e.g., when the user has not interacted with it for a period of time, when it has not displayed user notification policy, and/or a user input has not been received for a period of time, and/or when a power save state is entered). In some embodiments, an application connection, OS connection, and/or other service activity is classified as a network capacity controlled service activity when the monitored network service usage activity exceeds a data usage threshold for more than one application connection, OS connection, and/or other service activity (e.g., aggregated data usage exceeds the data usage threshold); or for a specific application connection. In some embodiments, an application connection, OS connection, and/or other service activity is classified as a network capacity controlled service activity when the monitored network service usage activity exceeds a data usage threshold based on a predetermined list of one or more data usage limits, based on a list received from a network element, usage time limit (e.g., based on a period of time exceeding a usage limit), and/or based on some other usage related criteria/measures. In some embodiments, classifying the network service usage activity further includes classifying the network service usage activity as a network capacity controlled service based on a network peak time, a network busy state, or a network connection to the device falls below a certain performance level (e.g., higher/lower priorities assigned based on various such criteria/other input/factors).

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[00164] In some embodiments, one or more of the network capacity controlled services are associated with a different network access policy set for one or more networks and/or one or more alternative networks. In some embodiments, one or more of the network capacity controlled services are associated with a different notification policy set for one or more networks and/or one or more alternative networks. In some embodiments, the network capacity controlled services list is stored on the device. In some embodiments, the network capacity controlled services list is received/periodically updated from a network element and stored on the device. In some embodiments, the network capacity controlled services list includes network capacity controlled services, non-network capacity controlled services (e.g., foreground services or services based on various possibly dynamic criteria are not classified as network capacity controlled services), and an unclassified set of services (e.g., grey list including one or more network service activities pending classification based on further analysis and/or input, such as from a network element, service provider, and/or user). In some embodiments, the network capacity controlled services list is based on one or more of the following: predefined/predesignated (e.g., network, service plan, pre-test and/or characterized by an application developer) criteria; device assisted/based monitoring (e.g., using a service processor); network based monitoring (e.g., using a DPI gateway); network assisted analysis (e.g., based on device reports of DAS activity analysis). For example, the device can report device monitored network service usage activities (e.g., all monitored network service usage activities or a subset based on configuration, threshold, service plan, network, and/or user input) to the network element. As another example, the network element can update the network capacity controlled services list and send the updated list to the device. As yet another example, the network element can perform a statistical analysis of network service activities across a plurality of devices based on the device based and/or network based network service usage activity monitoring/reporting. In some embodiments, a network service usage activity is

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determined to be an active application or process (e.g., based on a user interaction with the device and/or network service usage activity, such as a pop-up and/or other criteria/measures).

[00165] In some embodiments, implementing traffic control for network capacity controlled services is provided using various techniques. In some embodiments, the device includes a service processor agent or function to intercept, block, modify, remove or replace UI messages, notifications or other UI communications generated by a network service activity that whose network service usage is being controlled or managed (e.g., using various measurement points). For example, this technique can be used to provide for an improved user experience (e.g., to prevent an application that is being controlled for protecting network capacity from generating repeated and/or confusing messages/alerts to the user). In some embodiments, a network stack interface of the device is replaced or modified to provide for intercept or discontinuance of network socket interface messages to applications or OS functions or other functions/software.

[00166] In some embodiments, implementing traffic control for network capacity controlled services using DAS techniques is provided using various techniques in which the network service usage activity is unaware of network capacity control (e.g., does not support an API or other interface for implementing network capacity control). For example, network service application messaging interface based techniques can be used to implement traffic control. Example network service application messaging interfaces include the following: network stack API, network communication stream/flow interface, network stack API messages, EtherType messages, ARP messages, and/or other messaging or other or similar techniques as will now be apparent to one of ordinary skill in the art in view of the various embodiments described herein. In some embodiments, network service usage activity control policies or network service activity messages are selected based on the set of traffic control policies or service activity messages that result in reduced or modified user notification by the service activity due

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to network capacity controlled service policies applied to the network service activity. In some embodiments, network service usage activity control policies or network service activity messages are selected based on the set of traffic control policies or service activity messages that result in reduced disruption of device operation due to network capacity controlled service activity policies applied to the network service activity. In some embodiments, network service usage activity control policies or network service activity messages are selected based on the set of traffic control policies or service activity messages that result in reduced disruption of network service activity operation due to network capacity controlled service activity policies applied to the network service activity. In some embodiments, implementing traffic control for network capacity controlled services is provided by intercepting opens/connects/writes. In some embodiments, implementing traffic control for network capacity controlled services is provided by intercepting stack API level or application messaging layer requests (e.g., socket open/send requests). For example, an intercepted request can be copied (e.g., to memory) and queued (e.g., delayed or throttled) or dropped (e.g., blocked). As another example, an intercepted request can be copied into memory and then a portion of the transmission can be retrieved from memory and reinjected (e.g., throttled). As yet another example, intercepting messaging transmissions can be parsed inline and allowed to transmit (e.g., allowed), and the transmission or a portion of the transmission can be copied to memory for classifying the traffic flow. In some embodiments, implementing traffic control for network capacity controlled services is provided by intercepting or controlling or modulating UI notifications. In some embodiments, implementing traffic control for network capacity controlled services is provided by killing or suspending the network service activity. In some embodiments, implementing traffic control for network capacity controlled services is provided by deprioritizing the process(es) associated with the service activity (e.g., CPU scheduling deprioritization).

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[00167] In some embodiments, implementing traffic control for network capacity controlled services using DAS techniques for network service usage activities that are unaware of network capacity control is provided by emulating network API messaging (e.g., effectively providing a spoofed or emulated network API). For example, an emulated network API can intercept, modify, block, remove, and/or replace network socket application interface messages and/or EtherType messages (e.g., EWOULDBLOCK, ENETDOWN, ENETUNREACH, EHOSTDOWN, EHOSTUNREACH, EALRADY, EINPROGRESS, ECONNREFUSED, EINPROGRESS, ETIMEDOUT, and/other such messages). As another example, an emulated network API can modify, swap, and/or inject network socket application interface messages (socket(), connect(), read(), write(), close(), and other such messages) that provide for control or management of network service activity service usage behavior. As yet another example, before a connection is allowed to be opened (e.g., before a socket is opened), transmission, or a flow/stream is initiated, it is blocked and a message is sent back to the application (e.g., a reset message in response to a sync request or another message that the application will understand and can interpret to indicate that the network access attempt was not allowed/blocked, that the network is not available, and/or to try again later for the requested network access). As yet another example, the socket can be allowed to open but after some point in time (e.g., based on network service usage, network busy state, time based criteria, and/or some other criteria/measure), the stream is blocked or the socket is terminated. As yet another example, time window based traffic control techniques can be implemented (e.g., during non-peak, not network busy state times), such as by allowing network access for a period of time, blocking for a period of time, and then repeating to thereby effectively spread the network access out either randomly or deterministically. Using these techniques, an application that is unaware of network capacity control based traffic control can send and receive standard messaging, and the device can implement traffic controls based on the network capacity control policy using messaging that the network service usage activity (e.g., application or OS or software function) can understand and

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will respond to in a typically predictable manner as would now be apparent to one of ordinary skill in the art.

[00168] In some embodiments, implementing traffic control for network capacity controlled services using DAS techniques is provided using various techniques in which the network service usage activity is aware of network capacity control (e.g., the network service usage activity supports an API or other interface for implementing network capacity control). For example, a network access API as described herein can be used to implement traffic control for network capacity controlled services. In some embodiments, the API facilitates communication of one or more of the following: network access conditions, network busy state or network availability state of one or more networks or alternative networks, one or more network capacity controlled service policies (e.g., the network service can be of a current network access setting, such as allow/block, throttle, queue, scheduled time/time slot, and/or defer, which can be based on, for example, a current network, a current network busy state, a time based criteria, a service plan, a network service classification, and/or other criteria/measures), a network access request from a network service activity, a query/polled request to a network service activity, a network access grant to a network service activity (e.g., including a priority setting and/or network capacity controlled service classification, a scheduled time/time slot, an alternative network, and/or other criteria/measures), a network busy state or a network availability state or a network QoS state.

[00169] In some embodiments, implementing traffic control for network capacity controlled services using network assisted/based techniques is provided using various techniques in which the network service usage activity is unaware of network capacity control (e.g., does not support an API or other interface for implementing network capacity control). In some embodiments, DPI based techniques are used to control network capacity controlled services (e.g., to block or throttle network capacity controlled services at a DPI gateway).

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[00170] In some embodiments, implementing traffic control for network capacity controlled services using network assisted/based techniques is provided using various techniques in which the network service usage activity is aware of network capacity control (e.g., does support an API or other interface for implementing network capacity control). In some embodiments, the application/messaging layer (e.g., a network API as described herein) is used to communicate with a network service activity to provide associated network capacity controlled service classifications and/or priorities, network busy state information or network availability of one or more networks or alternative networks, a network access request and response, and/other criteria/measures as similarly described herein.

[00171] In some embodiments, DAS for protecting network capacity includes implementing a service plan for differential charging based on network service usage activities (e.g., including network capacity controlled services). In some embodiments, the service plan includes differential charging for network capacity controlled services. In some embodiments, the service plan includes a cap network service usage for network capacity controlled services. In some embodiments, the service plan includes a notification when the cap is exceeded. In some embodiments, the service plan includes overage charges when the cap is exceeded. In some embodiments, the service plan includes modifying charging based on user input (e.g., user override selection as described herein, in which for example, overage charges are different for network capacity controlled services and/or based on priority levels and/or based on the current access network). In some embodiments, the service plan includes time based criteria restrictions for network capacity controlled services (e.g., time of day restrictions with or without override options). In some embodiments, the service plan includes network busy state based criteria restrictions for network capacity controlled services (e.g., with or without override options). In some embodiments, the service plan provides for network service activity controls to be overridden (e.g., one time, time window, usage amount, or permanent) (e.g., differentially

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charge for override, differentially cap for override, override with action based UI notification option, and/or override with UI setting). In some embodiments, the service plan includes family plan or multi-user plan (e.g., different network capacity controlled service settings for different users). In some embodiments, the service plan includes multi-device plan (e.g., different network capacity controlled service settings for different devices, such as smart phone v. laptop v. net book v. eBook). In some embodiments, the service plan includes free network capacity controlled service usage for certain times of day, network busy state(s), and/or other criteria/measures. In some embodiments, the service plan includes network dependent charging for network capacity controlled services. In some embodiments, the service plan includes network preference/prioritization for network capacity controlled services. In some embodiments, the service plan includes arbitration billing to bill a carrier partner or sponsored service partner for the access provided to a destination, application, or other network capacity controlled service. In some embodiments, the service plan includes arbitration billing to bill an application developer for the access provided to a destination, application or other network capacity controlled service.

[00172] In some application scenarios, excess network capacity demand can be caused by modem power state changes on the device. For example, when an application or OS function attempts to connect to the network for any reason when the modem is in a power save state wherein the modem is not connected to the network, it can cause the modem to change power save state, reconnect to the network, and then initiate the application network connection. In some cases, this can also cause the network to re-initiate a modem connection session (e.g., PPP session) which in addition to the network capacity consumed by the basic modem connection also consumes network resources for establishing the PPP session. Accordingly, in some embodiments, network service usage activity control policies are implemented that limit or control the ability of applications, OS functions, and/or other network service usage activities

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(e.g., network capacity controlled services) from changing the modem power control state or network connection state. In some embodiments, a service usage activity is prevented or limited from awakening the modem, changing the power state of the modem, or causing the modem to connect to the network until a given time window is reached. In some embodiments, the frequency a service usage activity is allowed to awakening the modem, changing the power state of the modem, or causing the modem is limited. In some embodiments, a network service usage activity is prevented from awakening the modem, changing the power state of the modem, or causing the modem until a time delay has passed. In some embodiments, a network service usage activity is prevented from awakening the modem, changing the power state of the modem, or causing the modem until multiple network service usage activities require such changes in modem state, or until network service usage activity is aggregated to increase network capacity and/or network resource utilization efficiency. In some embodiments, limiting the ability of a network service usage activity to change the power state of a modem includes not allowing the activity to power the modem off, place the modem in sleep mode, or disconnect the modem from the network. In some embodiments, these limitations on network service usage activity to awaken the modem, change the power state of the modem, or cause the modem to connect to a network are set by a central network function (e.g., a service controller or other network element/function) policy communication to the modem. In some embodiments, these power control state policies are updated by the central network function.

[00173] FIG. 11 depicts an example of a computer system 1100 on which techniques described in this paper can be implemented. The computer system 1100 may be a conventional computer system that can be used as a client computer system, such as a wireless client or a workstation, or a server computer system. The computer system 1100 includes a computer 1102, I/O devices 1104, and a display device 1106. The computer 1102 includes a processor 1108, a communications interface 1110, memory 1112, display controller

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1114, non-volatile storage 1116, and I/O controller 1118. The computer 1102 may be coupled to or include the I/O devices 1104 and display device 1106.

[00174] The computer 1102 interfaces to external systems through the communications interface 1110, which may include a modem or network interface. It will be appreciated that the communications interface 1110 can be considered to be part of the computer system 1100 or a part of the computer 1102. The communications interface 1110 can be an analog modem, ISDN modem, cable modem, token ring interface, satellite transmission interface (e.g. "direct PC"), or other interfaces for coupling a computer system to other computer systems.

[00175] The processor 1108 may be, for example, a conventional microprocessor such as an Intel Pentium microprocessor or Motorola power PC microprocessor. The memory 1112 is coupled to the processor 1108 by a bus 1170. The memory 1112 can be Dynamic Random Access Memory (DRAM) and can also include Static RAM (SRAM). The bus 1170 couples the processor 1108 to the memory 1112, also to the non-volatile storage 1116, to the display controller 1114, and to the I/O controller 1118.

[00176] The I/O devices 1104 can include a keyboard, disk drives, printers, a scanner, and other input and output devices, including a mouse or other pointing device. The display controller 1114 may control in the conventional manner a display on the display device 1106, which can be, for example, a cathode ray tube (CRT) or liquid crystal display (LCD). The display controller 1114 and the I/O controller 1118 can be implemented with conventional well known technology.

[00177] The non-volatile storage 1116 is often a magnetic hard disk, an optical disk, or another form of storage for large amounts of data. Some of this data is often written, by a direct memory access process, into memory 1112 during execution of software in the computer 1102. One of skill in the art will immediately recognize that the terms "machine-readable medium" or

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"computer-readable medium" includes any type of storage device that is accessible by the processor 1108 and also encompasses a carrier wave that encodes a data signal.

[00178] The computer system 1100 is one example of many possible computer systems which have different architectures. For example, personal computers based on an Intel microprocessor often have multiple buses, one of which can be an I/O bus for the peripherals and one that directly connects the processor 1108 and the memory 1112 (often referred to as a memory bus). The buses are connected together through bridge components that perform any necessary translation due to differing bus protocols.

[00179] Network computers are another type of computer system that can be used in conjunction with the teachings provided herein. Network computers do not usually include a hard disk or other mass storage, and the executable programs are loaded from a network connection into the memory 1112 for execution by the processor 1108. A Web TV system, which is known in the art, is also considered to be a computer system, but it may lack some of the features shown in FIG. 11, such as certain input or output devices. A typical computer system will usually include at least a processor, memory, and a bus coupling the memory to the processor.

[00180] In addition, the computer system 1100 is controlled by operating system software which includes a file management system, such as a disk operating system, which is part of the operating system software. One example of operating system software with its associated file management system software is the family of operating systems known as Windows® from Microsoft Corporation of Redmond, Washington, and their associated file management systems. Another example of operating system software with its associated file management system software is the Linux operating system and its associated file management system. The file management system is typically stored in the non-volatile storage 1116 and causes the

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processor 1108 to execute the various acts required by the operating system to input and output data and to store data in memory, including storing files on the non-volatile storage 1116.

[00181] Some portions of the detailed description are presented in terms of algorithms and symbolic representations of operations on data bits within a computer memory. These algorithmic descriptions and representations are the means used by those skilled in the 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 operations leading to a desired result. The operations 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 has proven convenient at times, principally for reasons of common usage, to refer to these signals as bits, values, elements, symbols, characters, terms, numbers, or the like.

[00182] 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 convenient labels applied to these quantities. Unless specifically stated otherwise as apparent from the following discussion, it is appreciated that throughout the description, discussions utilizing terms such as "processing" or "computing" or "calculating" or "determining" or "displaying" or the like, refer to the action and processes of a computer system, or similar electronic computing device, that manipulates and transforms data represented as physical (electronic) quantities within the computer system's registers and memories into other data similarly represented as physical quantities within the computer system memories or registers or other such information storage, transmission or display devices.

[00183] The present invention, in some embodiments, also relates to apparatus for performing the operations herein. This apparatus may be specially constructed for the required

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purposes, or it may comprise a general purpose computer selectively activated or reconfigured by a computer program stored in the computer. Such a computer program may be stored in a computer readable storage medium, such as, but is not limited to, read-only memories (ROMs), random access memories (RAMs), EPROMs, EEPROMs, magnetic or optical cards, any type of disk including floppy disks, optical disks, CD-ROMs, and magnetic-optical disks, or any type of media suitable for storing electronic instructions, and each coupled to a computer system bus.

[00184] The algorithms and displays presented herein are not inherently related to any particular computer or other apparatus. Various general purpose systems may be used with programs in accordance with the teachings herein, or it may prove convenient to construct more specialized apparatus to perform the required method steps. The required structure for a variety of these systems will appear from the description below. In addition, the present invention is not described with reference to any particular programming language, and various embodiments may thus be implemented using a variety of programming languages.

[00185] Although the foregoing embodiments have been described in some detail for purposes of clarity of understanding, the invention is not limited to the details provided. There are many alternative ways of implementing the invention. The disclosed embodiments are illustrative and not restrictive.

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[00186] Hierarchal Design from existing objects (e.g. service activities)

[00187] 1. A method comprising:

[00188] identifying, at a service design system, one or more filters, each filter for identifying network data traffic as associated with one or more network services;

[00189] generating one or more service objects using the one or more filters, each service object for identifying network data traffic belonging to a category of one or more network services;

[00190] generating a service plan using the one or more service objects, the service plan for managing use of the one or more network services or of the one or more categories of one or more network services by an end user device;

[00191] associating at least one sub-plan-level policy with at least one of the one or more filters or with at least one of the one or more service objects, the at least one sub-plan-level policy for defining rules of use of a specified network service or of a specified category of one or more network services; and

[00192] using the one or more filters of the service plan and the at least one sub-plan-level policy to generate computer code for assisting a policy implementation element to manage use of the particular network service or the particular category of one or more network services on the end user device in accordance with the at least one sub-plan-level policy.

[00193] 2. The method of claim 1, wherein at least one of the one or more network services includes a web page.

[00194] 3. The method of claim 1, wherein at least one of the one or more network services includes a domain.

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[00195] 4. The method of claim 1, wherein at least one of the one or more network services includes an application.

[00196] 5. The method of claim 1, wherein at least one of the one or more network services includes a tethering function.

[00197] 6. The method of claim 1, wherein at least one of the one or more network services includes a roaming data network function.

[00198] 7. The method of claim 1, wherein one of the one or more categories includes email services.

[00199] 8. The method of claim 1, wherein one of the one or more categories includes social networking services.

[00200] 9. The method of claim 1, wherein one of the one or more categories includes a domain, and the network services of the category include a plurality of web pages.

[00201] 10. The method of claim 1, wherein one of the one or more categories includes a music download service.

[00202] 11. The method of claim 1, wherein one of the one or more categories includes video game services.

[00203] 12. The method of claim 1, wherein one of the one or more categories includes multimedia services.

[00204] 13. The method of claim 1, wherein the rules include notification rules defining user notifications triggers.

[00205] 14. The method of claim 1, wherein the rules include access rules defining access rights.

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[00206] 15. The method of claim 1, wherein the rules include accounting rules defining use-based accounting metrics.

[00207] 16. The method of claim 1, wherein the policy implementation element is on the end user device.

[00208] 17. The method of claim 1, wherein the policy implementation element is on a network element remote from the end user device.

[00209] 18. The method of claim 1, wherein each of the steps is performed via a single interface.

[00210] 19. The method of claim 1, wherein the one or more service objects include two service objects, and the two service objects each include an instance of the same filter.

[00211] 20. The method of claim 1, wherein

[00212] at least one of the one or more service objects comprises a service activity including a group of one or more filters, and comprises a service component including a group of one or more service activities, and

[00213] the service plan comprises one or more service components.

[00214] 21 The method of claim 20, wherein one of the at least one sub-plan-level policy includes at least one of an activity-level policy or a component-level policy.

[00215] 22. The method of claim 1, further comprising

[00216] creating a device group of one or more end user devices; and

[00217] providing the computer code to an element group of one or more policy implementation elements to manage the specified network service or the specified category of network services on the one or more end user devices of the device group in accordance with the at least one sub-plan-level policy.

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[00218] 23. The method of claim 22, wherein the device group includes a beta test group of one or more end user devices.

[00219] 24. The method of claim 22,

[00220] wherein the beta test group is different than the device group, and

[00221] further comprising providing the computer code to a beta test element group of one or more policy implementation elements to manage the specified network service or the specified category of network services on the one or more end user devices of the beta test group in accordance with the at least one sub-plan-level policy, before providing the computer code to the one or more end user devices of the device group.

[00222] 25. The method of claim 1, wherein a filter identifies all network data traffic as associated therewith.

[00223] 25++. The method of claim 1, wherein the computer code is generated for a programmable circuit.

[00224] 26. A service design system, comprising:

[00225] a first interface mechanism for identifying one or more filters, each filter for identifying network data traffic as associated with one or more network services;

[00226] a second interface mechanism for generating one or more service objects using the one or more filters, each service object for identifying network data traffic belonging to a category of one or more network services;

[00227] a third interface mechanism for generating a service plan using the one or more service objects, the service plan for managing use of the one or more network services or of the one or more categories of one or more network services by an end user device;

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[00228] a fourth interface mechanism for associating at least one sub-plan-level policy with at least one of the one or more filters or with at least one of the one or more service objects, the at least one sub-plan-level policy for defining rules of use of a specified network service or of a specified category of one or more network services; and

[00229] a processor for using the one or more filters of the service plan and the at least one sub-plan-level policy to generate computer code for assisting a policy implementation element to manage use of the particular network service or the particular category of one or more network services on the end user device in accordance with the at least one sub-plan-level policy.

[00230] 27. The system of claim 26, wherein at least one of the one or more network services includes a web page.

[00231] 28. The system of claim 26, wherein at least one of the one or more network services includes a domain.

[00232] 29. The system of claim 26, wherein at least one of the one or more network services includes an application.

[00233] 30. The system of claim 26, wherein at least one of the one or more network services includes a tethering function.

[00234] 31. The system of claim 26, wherein at least one of the one or more network services includes a roaming data network.

[00235] 32. The system of claim 26, wherein one of the one or more categories includes email services.

[00236] 33. The system of claim 26, wherein one of the one or more categories includes social networking services.

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[00237] 34. The system of claim 26, wherein one of the one or more categories includes a domain, and the network services of the category include a plurality of web pages.

[00238] 35. The system of claim 26, wherein one of the one or more categories includes a music download service.

[00239] 36. The system of claim 26, wherein one of the one or more categories includes video game services.

[00240] 37. The system of claim 26, wherein one of the one or more categories includes multimedia services.

[00241] 38. The system of claim 26, wherein the rules include notification rules defining user notifications triggers.

[00242] 39. The system of claim 26, wherein the rules include access rules defining access rights.

[00243] 40. The system of claim 26, wherein the rules include accounting rules defining use-based accounting metrics.

[00244] 41. The system of claim 26, wherein the policy implementation element is on the end user device.

[00245] 42. The system of claim 26, wherein the policy implementation element is on a network element remote from the end user device.

[00246] 43. The system of claim 26, wherein the first, second, third and fourth interface mechanism are all portions of a single interface.

[00247] 44. The system of claim 26, wherein the one or more service objects include two service objects, and the two service objects each include an instance of the same filter.

[00248] 45. The system of claim 26, wherein

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[00249] at least one of the one or more service objects comprises a service activity including a group of one or more filters, and comprises a service component including a group of one or more service activities, and

[00250] the service plan comprises one or more service components.

[00251] 46 The system of claim 45, wherein one of the at least one sub-plan-level policy includes at least one of an activity-level policy or a component-level policy.

[00252] 47. The system of claim 26, further comprising

[00253] a fifth interface mechanism for creating a device group of one or more end user devices; and

[00254] a transmitter mechanism for providing the computer code to an element group of one or more policy implementation elements to manage the specified network service or the specified category of network services on the one or more end user devices of the device group in accordance with the at least one sub-plan-level policy.

[00255] 48. The system of claim 47, wherein the device group includes a beta test group of one or more end user devices.

[00256] 49. The system of claim 47, wherein

[00257] the beta test group is different than the device group, and

[00258] wherein the transmitter mechanism is operative to provide the computer code to a beta test element group of one or more policy implementation elements to manage the specified network service or the specified category of network services on the one or more end user devices of the beta test group in accordance with the at least one sub-plan-level policy, before providing the computer code to the one or more end user devices of the device group.

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[00259] 50. The system of claim 26, wherein a filter identifies all network data traffic as associated therewith.

[00260] 51. The system of claim 26, wherein the processor generates the computer code for a programmable circuit.

[00261] Design and Implementation: Order of classifying data

[00262] 1. A method comprising:

[00263] identifying filters at a service design system, each filter for classifying network data traffic as associated with one or more network services;

[00264] generating service objects using the filters, each service object for classifying network data traffic as associated with a group of the one or more network services;

[00265] generating a service plan using the service objects, the service plan for managing use of the network services associated with the service objects;

[00266] prioritizing the service objects to avoid conflicting classifications of network data traffic by alternative service objects, the alternative service objects capable of classifying the network data traffic as associated therewith;

[00267] associating policies with the service objects, each policy for defining rules of use of the group of the one or more network services corresponding to an associated service object; and

[00268] using the service objects and the policies to generate computer code for assisting a policy implementation element to manage use of the network services on the end user device.

[00269] 2. The method of claim 1, wherein the one or more network services includes a web page.

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[00270] 3. The method of claim 1, wherein the one or more network services includes a domain.

[00271] 4. The method of claim 1, wherein the one or more network services includes an application.

[00272] 5. The method of claim 1, wherein the one or more network services includes a tethering function.

[00273] 6. The method of claim 1, wherein the one or more network services includes a roaming data network function.

[00274] 7. The method of claim 1, wherein the one or more network services includes a category of network services.

[00275] 8. The method of claim 1, wherein the group includes a category of network services.

[00276] 9. The method of claim 1, wherein the group includes sponsored services.

[00277] 10. The method of claim 1, wherein the group of one or more services includes the services provided by a single entity.

[00278] 11. The method of claim 1, wherein the group includes a domain, and the network services of the group include a plurality of web pages.

[00279] 12. The method of claim 1, wherein the rules include notification rules defining user notifications triggers.

[00280] 13. The method of claim 1, wherein the rules include access rules defining access rights.

[00281] 14. The method of claim 1, wherein the rules include accounting rules defining use-based accounting metrics.

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[00282] 15. The method of claim 1, wherein the policy implementation element is on the end user device.

[00283] 16. The method of claim 1, wherein the policy implementation element is on a network element remote from the end user device.

[00284] 17. The method of claim 1, wherein each of the steps is performed via a single interface.

[00285] 18. The method of claim 1, wherein the service objects include two service objects each including an instance of the same filter.

[00286] 19. The method of claim 1, wherein

[00287] at least one of the service objects comprises a service activity including a group of one or more filters, and comprises a service component including a group of one or more service activities, and

[00288] the service plan comprises one or more service components.

[00289] 20 The method of claim 19, wherein at least one of the policies includes at least one of an activity-level policy or a component-level policy.

[00290] 21. The method of claim 1, wherein the computer code is generated for a programmable circuit.

[00291] 22. The method of claim 1, wherein a filter identifies all network data traffic as associated therewith.

[00292] 23. The method of claim 1, wherein at least one service object is generated using only one filter.

[00293] 24. The method of claim 1, wherein the prioritizing includes prioritizing sponsored services ahead of unsponsored services.

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[00294] 25. The method of claim 1,

[00295] wherein the service objects includes a first service object and a second service object, each of the first and second service objects configured to classify particular network data traffic with its associated one or more network services, and

[00296] wherein the prioritizing includes configuring the first service object to apply until a restriction, and the second service object to apply after the restriction.

[00297] 26. The method of claim 25, wherein the restriction includes a state condition.

[00298] 27. The method of claim 25, wherein the restriction includes a usage threshold.

[00299] 28. The method of claim 1, further comprising providing the computer code to the policy implementation element.

[00300] 29. A method, comprising:

[00301] receiving computer instructions from a service design system;

[00302] using the computer instructions to install on an end user device prioritized service objects and policies associated with the service objects, the prioritized service objects and associated policies for managing use of one or more network data services;

[00303] receiving network data traffic or a request for network data services at an end user device;

[00304] applying, by a policy implementation element, one or more of the prioritized service objects to classify the network data traffic or the request for network data services as belonging to at least one of the one or more network data services and as associated with a particular service object;

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[00305] applying, by a policy implementation element, a particular policy associated with the particular service object to effect the rules of use of the at least one of the one or more network data services.

[00306] 30. The method of claim 29, further comprising:

[00307] determining that the usage of the applicable classification has reached a first limit when a first packet belonging to the first classification is received;

[00308] applying one or more additional filters to the first packet; and

[00309] classifying the packet as belonging to a second classification of the at least two different classifications.

[00310] 31. The method of claim 29, wherein the one or more policies corresponding to the applicable classification include a skip policy, the method further comprising:

[00311] stopping of applying any more policies for the applicable classification; and

[00312] applying one or more additional filters to the data traffic to determine another applicable classification for the data traffic.

[00313] III. Design and Implementation: policy modifiers

[00314] A. Classification and at least one network policy modifier

[00315] 35. A method for designing a service plan group including a plurality of network data services to be provided by an access network to one or more communications devices, the method comprising:

[00316] creating each of a plurality of service objects by:

[00317] receiving, at an interface of a service design system, one or more filters for a respective service component, each filter including a set of one or more parameters, each set of

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parameters adapted to classify data traffic as being associated with the respective service object, the data traffic to be communicated on the at least one access network;

[00318] providing, to a user, an interface mechanism to select one or more network state categories from a plurality of network state categories and at least one network state value for a selected network state category, each network state category having a plurality of network state values;

[00319] receiving a selection of the one or more network state categories and one or more network state values for the selected network state category ;

[00320] designating one or more policies to combinations of each service object and at least one network state value of a selected network state category;

[00321] creating the service plan group based on the plurality of service objects, the policies, and the policy designations, wherein the policy designations of the service plan group facilitates implementing policies for data traffic of a communications device subscribing to the service plan based on current network state values of the selected network state categories; and

[00322] translating the service plan group into instructions capable of being used to program one or more policy implementation elements to implement the policies for the data traffic of the communications device.

[00323] 36. The method of claim 35, wherein a service object is a service component or a service plan that includes service components.

[00324] 37. The method of claim 35, further comprising:

[00325] designating one or more policies to each combination of service object and each network state value of each selected network state category.

[00326] 38. The method of claim 35, further comprising:

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[00327] providing, to the user, an input mechanism for receiving one or more policies for each combination of service object and each network state value of each selected network state category.

[00328] 39. The method of claim 35, further comprising:

[00329] receiving a plurality of usage state values, a usage state value indicating an amount of network usage classified to a service object, the classification being determined by the one or more filters of the service object; and

[00330] designating one or more policies to each combination of classification, usage state value, and each network state value of each selected network category.

[00331] 40. The method of claim 35, wherein the interface mechanism allows selecting the one or more network state categories separately for each service object.

[00332] 41. The method of claim 35, wherein the interface mechanism allows a user to specify one or more network state configurations, a first network state configuration including:

[00333] a network state value for each of the network state categories selected for the first network state configuration; and

[00334] a wildcard symbol for the network state categories not selected for the first network state configuration, wherein the wildcard symbol matches any network state value for the non-selected category, wherein one or more policies are designated for each network state configuration.

[00335] 42. The method of claim 41, further comprising:

[00336] receiving, from the user, one or more policies for each network state configuration.

[00337] 43. The method of claim 41, further comprising:

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[00338] receiving an order of the network state configurations, the order being used by the one or more policy implementation elements to determine a network state configuration that first matches with the current network state values and the corresponding one or more policies to implement for data traffic of the communications device.

[00339] 44. The method of claim 42, wherein the interface mechanism allows a user to separately specify one or more network state configurations for each service object.

[00340] 45. The method of claim 35, wherein the policy designations are arranged in a multidimensional array, wherein each selected network category is a separate dimension of the multidimensional array, and wherein the plurality of service objects comprise a dimension of the multidimensional array.

[00341] 46. The method of claim 35, wherein the plurality of network state categories includes congestion state, location of the network, type of network, and network routing identifiers.

[00342] 47. The method of claim 46, wherein the network state values for the location of the network include home and at least one roaming network.

[00343] 48. The method of claim 46, wherein the network state values for the congestion state are based on at least one of time of day, a device measure of network congestion, and a network measure of network congestion.

[00344] 49. The method of claim 48, wherein the network state values are based on a measure of network congestion, the measure of network congestion including at least one of traffic delay, delay jitter, and network packet error rate.

[00345] 50. The method of claim 48, further comprising:

[00346] receiving, from a user, a specification of how a network state value for the congestion state is to be determined.

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[00347] 51 . The method of claim 46, wherein the network state values for the type of network include at least two or more selected from a group consisting of: 2G, 3G, 4G, and Wi Fi.

[00348] 52. The method of claim 35, wherein each parameter in a set is for a respective category of data traffic attributes.

[00349] B. Two policy modifiers

[00350] 53. A method for designing a service plan group including one or more network services to be provided by an access network to one or more communications devices, the method comprising:

[00351] providing, by a service design system to a user, an interface mechanism to select a plurality of network state categories and at least one network state value for a selected network state category, each network state category having a plurality of network state values;

[00352] receiving a selection of the plurality of network state categories and one or more network state values for each of the selected network state categories;

[00353] designating one or more policies to a plurality of combinations of network state values for the selected network state categories;

[00354] creating the service plan group based on the policies and the policy designations, wherein the policy designations of the service plan group facilitates implementing policies for a communications device subscribing to the service plan group based on current network state values of the selected network state categories; and

[00355] translating the service plan group into instructions capable of being used to program one or more policy implementation elements to implement the policies for the data traffic of the communications device.

[00356] 54. The method of claim 53, further comprising:

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[00357] designating one or more policies to each combination of network state values for the selected network state categories.

[00358] 55. The method of claim 53, further comprising:

[00359] creating each of a plurality of service objects by:

[00360] receiving, at an interface of a service design system, one or more filters for a respective service object, each filter including a set of one or more parameters, each set of parameters adapted to classify data traffic as being associated with the respective service object, the data traffic to be communicated on the at least one access network; and

[00361] designating one or more policies to each combination of service object and each network state value of each selected network state category.

[00362] 56. The method of claim 55, wherein a service object is a service component or a service plan that includes service components.

[00363] 57. The method of claim 53, further comprising:

[00364] receiving a plurality of usage state values, a usage state value indicating an amount of network usage; and

[00365] designating one or more policies to each combination of usage state value and each network state value of each selected network category.

[00366] C. Implementation with two network state categories

[00367] 58. A method of implementing a policy for a communications device's use of a network service of an access network, the method comprising:

[00368] obtaining network state information;

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[00369] determining a set of current state values of the access network based on the network state information, each current state value associated with a respective network state category, each network state category having a plurality of network state values;

[00370] using the set of current state values to access an array of policies;

[00371] retrieving, from the array, a first policy that corresponds to the set of current state values;

[00372] receiving one or more packets of data traffic associated with the communications device during the current state of the access network; and

[00373] applying, by a policy implementation element, the first policy to the one or more packets of the data traffic.

[00374] 59. The method of claim 58, wherein using the current state values to access an array of policies includes:

[00375] comparing the set of current state values to one or more network state configurations to determine a network state configuration that matches to the set of current state values, each network state configuration associated with one or more policies.

[00376] 60. The method of claim 59, wherein the comparing is performed in a specified order, the method further comprising:

[00377] retrieving the one or more policies associated with the first network state configuration that matches to the set of current state values.

[00378] 61. The method of claim 58, further comprising:

[00379] converting one or more of the current state values to a corresponding predetermined network state value of a respective network state category.

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[00380] 62. The method of claim 61, wherein the respective network state category corresponds to network congestion, and wherein the predetermined network state values correspond to different levels of congestion.

[00381] 63. The method of claim 58, further comprising:

[00382] converting the set of current state values to a network state index of an indexed array of policies; and

[00383] using the network state index to retrieve the first policy.

[00384] 64. The method of claim 63, wherein the first policy is retrieved from a multidimensional array, wherein each of the selected network state categories corresponds to a dimension of the multidimensional array.

[00385] 65. The method of claim 63, wherein the indexed array contains pointers to the policies.

[00386] 66. The method of claim 63, further comprising:

[00387] detecting when the network state information changes, wherein the converting the network state information to a network state index of an indexed array of policies occurs when the network state information changes.

[00388] 67. The method of claim 58, wherein the respective network state categories include congestion state, location of the network, type of network, and network routing identifier.

[00389] 68. The method of claim 67, wherein the network state values for the location of the network include home and at least one roaming network.

[00390] 69. The method of claim 67, wherein the network state values for the congestion state are based on at least one of time of day, a device measure of network congestion, and a network measure of network congestion.

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[00391] 70. The method of claim 69, wherein the network state values are based on a measure of network congestion, the measure of network congestion including at least one of traffic delay, delay jitter, and network packet error rate.

[00392] 71 . The method of claim 67, wherein the network state values for the type of network include at least two or more selected from a group consisting of: 2G, 3G, 4G, and Wi Fi.

[00393] IV. Design of a policy: events

[00394] A. Event associated with 2 of 3 policies

[00395] 72. A method for designing a service plan including one or more network services to be provided by an access network to one or more communications devices, the method comprising:

[00396] providing, by a service design system to a user, an interface mechanism to provide input defining an event associated with a use of the access network according to the service plan;

[00397] receiving, from the user, the input defining the event;

[00398] receiving, from the user, a plurality of service policies associated with the event, the service policies including at least two of an access policy that defines rights to access a network service, a charging policy that defines charges for using the network service, and a notification policy that defines when to provide notifications corresponding to the network service; and

[00399] creating the service plan based on the event and the plurality of service policies; and

[00400] translating the service plan into instructions capable of being used to program one or more policy implementation elements to implement the service policies when the event is detected for a communications device's use of the access network, the communications device subscribing to the service plan.

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[00401] 73. The method of clam 72, further comprising:

[00402] identifying a first group of remote communications devices to be bound to the service plan; and

[00403] providing the instructions to a second group of policy implementation elements capable of implementing the policy for the first group of remote communications devices.

[00404] 74. The method of clam 72, wherein the interface mechanism includes one or more picklists for defining the event, each picklist including a plurality of options.

[00405] 75 . The method of clam 74, wherein the one or more picklists include:

[00406] a first picklist that includes at least one option that corresponds to a measure for an amount of usage of a network service; and

[00407] one or more second picklists that include options for specifying the amount of usage.

[00408] B. Event and device state provides notification

[00409] 76. A method for designing a service plan including one or more network services to be provided by an access network to one or more communications devices, the method comprising:

[00410] providing, by a service design system to a user, a first interface mechanism to provide input defining one or more events associated with a use of the access network according to the service plan;

[00411] receiving, from the user, the input defining the one or more events;

[00412] providing a second interface mechanism for specifying one or more device states of a communications device, a device state being a property of only the communications device;

[00413] receiving the one or more device states;

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[00414] receiving a notification policy associated with the one or more events and the one or more device states, the notification policy defining a conditional relationship between the one or more events and the one or more device states such that a notification message is displayed to a user of a communications device subscribing to the service plan;

[00415] creating the service plan based on the one or more events, the one or more device states, and the notification policy; and

[00416] translating the service plan into instructions capable of being used to program one or more policy implementation elements to implement the notification policy when the one or more events are detected for the communications device's use of the access network and the conditional relationship exists, the communications device subscribing to the service plan.

[00417] 77. The method of claim 76, wherein the one or more events include a classification of data traffic of the communications device into a first type of data traffic, the classification being determined by one or more filters of the service plan.

[00418] 78. The method of claim 76, wherein a device state includes an application presently running on the device, a location of the device,

[00419] 79. The method of claim 76, wherein the one or more events is only one event, and the conditional relationship includes the one or more device states being present when the only one event is detected.

[00420] 80. The method of claim 76, wherein the conditional relationship specifies one or more window criteria between when one or more of the events was detected and when one of the device states was last present on the communications device.

[00421] 81. The method of claim 80, wherein the window criteria includes a time and/or a usage amount.

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[00422] 82. The method of claim 76, wherein the conditional relationship specifies an order of the events.

[00423] 83. The method of claim 76, wherein the conditional relationship specifies an order for when the device states were present on the communications device.

[00424] C. Implementation of event and device state induced notification

[00425] 84. A method of implementing a notification policy for a communications device's use of a network service of an access network, the method comprising:

[00426] detecting one or more events associated with a communications device's use of the access network according to the service plan;

[00427] identifying one or more current or recent device states of the communications device, a device state being a property of only the communications device;

[00428] determining whether a conditional relationship exists between the one or more events and the one or more current or recent device states according to a notification policy of a service plan subscribed to by the communications device; and

[00429] sending a notification request to a notification agent on the communications device when the conditional relationship is satisfied.

[00430] 85. The method of claim 84, wherein the notification request is sent from a network element to the notification agent on the communications device.

[00431] 86. The method of claim 84, wherein the notification request is sent from a policy implementation agent on the communications device to the notification agent on the communications device.

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CLAIMS

We claim:

1. A network service plan provisioning system configured to:

receive and store multiple service plan components comprising:

a first service plan component, the first service plan component comprising:

a first traffic classification filter set comprising a first traffic classification filter for filtering a traffic event in a network traffic inspection system;

a first policy enforcement action set comprising a first network policy enforcement action that is triggered in a network policy enforcement system when the traffic event possesses characteristics that match the first classification identifier;

a second service plan component, the second service plan component comprising:

a second traffic classification filter set comprising a second traffic classification filter for filtering the traffic event in the network traffic inspection system;

a second policy enforcement action set comprising a second network policy enforcement action that is triggered in the network policy enforcement system when the traffic event possesses characteristics that match the second classification identifier;

determine a superposition of the first traffic classification filter over the second traffic classification filter;

process the first service plan component and the second service plan component to create a network provisioning instruction set in accordance with the determination of the superposition of the first traffic classification filter over the second traffic classification filter, the network provisioning instruction set comprising a set of traffic inspection provisioning instructions for a network traffic inspection system and a set of policy enforcement provisioning instructions for a network policy enforcement system;

provide the set of traffic inspection provisioning instructions to the network traffic inspection system;

provide the set of policy enforcement provisioning instructions to the network policy enforcement system.

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2. The network service plan provisioning system of claim 1 wherein the network service plan provisioning system is configured to order traffic inspection comparison operations in the set of traffic inspection provisioning instructions such that the first service plan component has a higher policy enforcement priority than the second service plan component, wherein the first traffic classification filter is evaluated before the second traffic classification filter in the network traffic inspection system.

3. The network service plan provisioning system of claim 2 wherein the network service plan provisioning system is configured to include in the network provisioning instruction set a specification that once the traffic event triggers the first network policy enforcement action, no further traffic comparison inspections are to be performed for the traffic event.

4. The network service plan provisioning system of claim 2 wherein the network service plan provisioning system is configured to include in the network provisioning instruction set a specification that once the traffic event triggers the first network policy enforcement action, further traffic comparison inspections are to be performed to determine that the traffic event also matches the second traffic classification filter and triggers the second network policy enforcement action.

5. The network service plan provisioning system of claim 1, wherein the network provisioning instruction set includes a service usage activity that satisfies the first service plan component and the second service plan component, further comprising:

a policy enforcement priority rule datastore including a policy enforcement priority rule for enforcing the service usage activity with the first traffic classification filter and the first network policy enforcement action rather than the second traffic classification filter and the second network policy enforcement action;

wherein the network service plan provisioning system is configured to include the policy enforcement priority rule in the network provisioning instruction set.

6. The network service plan provisioning system of claim 5 wherein the policy enforcement priority rule comprises a priority order for traffic classification filters, including the first traffic classification filter and the second traffic classification filter, for filtering the traffic event in the network traffic inspection system.

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7. The network service plan provisioning system of claim 5 wherein the policy enforcement priority rule comprises a priority specification for at least one of the first service plan component and the second service plan component.

8. The network service plan provisioning system of claim 5 wherein the network service plan provisioning system is configured to include in the set of network provisioning instruction set a specification that the traffic event is to be compared with multiple traffic classification filter sets associated with multiple service plan components, and in the event that more than one traffic classification filter match is triggered then the policy enforcement action associated with the matched traffic classification filter for the service plan component with highest policy enforcement priority is to be enforced.

9. The network service plan provisioning system of claim 8 wherein the network service plan provisioning system is configured to include in the network provisioning instruction set a specification that once the traffic event triggers the first network policy enforcement action, no policy enforcement action from a policy enforcement action set other than the first policy enforcement action set is to be applied to the traffic event.

10. The network service plan provisioning system of claim 8 wherein the network service plan provisioning system is configured to include in the network provisioning instruction set a specification that once the traffic event triggers the first network policy enforcement action, the second policy enforcement action is to be applied to the traffic event.

11. The network service plan provisioning system of claim 5 wherein the network service plan provisioning system is configured to provide a user interface for a service plan design environment that provides for entering the policy enforcement priority rule in the design environment by one or more of: entering a priority assignment to a service plan component, positioning service plan components in a graphical ordering of priority, or defining a service plan component as belonging to a service type that has an implied or literal ordering.

12. The network service plan provisioning system of claim 1 wherein the network service plan provisioning system is configured to include in the first traffic classification filter an inspection criteria selected from a group of inspection criteria consisting of a specific device

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application, a specific network destination, a specific network source, a specific traffic or content type, a specific traffic protocol, and a combination of two or more of the inspection criteria.

13. The network service plan provisioning system of claim 1 wherein the network service plan provisioning system is configured to include in the policy enforcement action set an action selected from a group of actions consisting of a traffic control policy; a service usage accounting, charging or billing policy, a service notification policy, and a combination of two or more of the actions.

14. The network service plan provisioning system of claim 1, wherein the network service plan provisioning system is configured to include in the network provisioning instruction set a sponsored charging policy.

15. The network service plan provisioning system of claim 1, wherein the network service plan provisioning system is configured to include in the network provisioning instruction set a classification-based charging policy, wherein the classification is from the group of classification categories consisting of application, destination, network, time of day, congestion state, quality of service, content type, and a combination.

16. The network service plan provisioning system of claim 1, wherein the network service plan provisioning system is configured to include in the network provisioning instruction set service buy page notifications with actionable responses.

17. The network service plan provisioning system of claim 1, wherein the network service plan provisioning system is configured to include in the network provisioning instruction set usage notifications in response to device or network state.

18. The network service plan provisioning system of claim 1, wherein the network service plan provisioning system is configured to include in the network provisioning instruction set marketing intercept offer notifications specific to device or network state.

19. The network service plan provisioning system of claim 1, wherein the network service plan provisioning system is configured to include in the network provisioning instruction set roaming notifications specific to device or network state.

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20. The network service plan provisioning system of claim 1, wherein the network service plan provisioning system is configured to provide a user interface for a service plan design environment that provides for a hierarchical definition and display of the multiple service plan components, the first traffic classification filter set, the second traffic classification filter set, the first policy enforcement action set, and the second policy enforcement action set.

21. The network service plan provisioning system of claim 1, wherein the network service plan provisioning system is configured to facilitate reuse of the multiple service plan components, the first traffic classification filter set, the second traffic classification filter set, the first policy enforcement action set, and the second policy enforcement action set in multiple service plans by storing the multiple service plan components, the first traffic classification filter set, the second traffic classification filter set, the first policy enforcement action set, and the second policy enforcement action set as objects in a catalog.

22. The network service plan provisioning system of claim 1 wherein the first policy enforcement action set includes an additional policy enforcement action set applied at the service plan level that augments the first policy enforcement action set and the second policy enforcement action set.

23. The network service plan provisioning system of claim 1 wherein the first policy enforcement action set includes an additional policy enforcement action set applied at the service plan level that over-rides the first policy enforcement action set and the second policy enforcement action set.

24. The network service plan provisioning system of claim 1, wherein the network service plan provisioning system is configured to facilitate grouping of the multiple service plan components and provide for grouping of the multiple service plan components into a larger service plan object definition.

25. The network service plan provisioning system of claim 1, wherein the network service plan provisioning system is configured to facilitate grouping of the multiple service plan components and provide for an additional policy enforcement action set applied at a service plan

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group level that augments the first policy enforcement action set and the second policy enforcement action set.

26. The network service plan provisioning system of claim 1, wherein the network service plan provisioning system is configured to facilitate grouping of the multiple service plan components and provide for an additional policy enforcement action set applied at a service plan group level that over-rides the first policy enforcement action set and the second policy enforcement action set.

27. The network service plan provisioning system of claim 1, wherein the network service plan provisioning system is configured to facilitate grouping of the multiple service plan components and provide one or more service plan component group policy enforcement priority rules comprising a specification for how to resolve one or more policy enforcement ambiguities that occur at the service plan component group level.

28. The network service plan provisioning system of claim 1 wherein the network service plan provisioning system is configured to receive service plan parameters for multiple service plans, combine service policies for the multiple service plans into one composite-plan policy set, and provision the network policy enforcement system to properly enforce the composite policies for the multiple service plans.

29. The network service plan provisioning system of claim 28 wherein the network service plan provisioning system is configured to provide a composite-plan policy enforcement priority rule comprising a specification for how to resolve a potential policy enforcement ambiguity between traffic classification or policy enforcement instructions for two or more composite-plans.

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SERVICE DESIGN CENTER FOR DEVICE ASSISTED SERVICES

Abstract of the Disclosure

A technique involves modular storage of network service plan components and provisioning of same. A subset of the capabilities of a service design system can be granted to a sandbox system to enable customization of service plan offerings or other controls.

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Electronic Patent Application Fee Transmittal	
Application Number:	
Filing Date:	
Title of Invention:	SERVICE DESIGN CENTER FOR DEVICE ASSISTED SERVICES
First Named Inventor/Applicant Name:	Gregory G. Raleigh
Filer:	William Frederick Ahmann/Valerie Cohen
Attorney Docket Number:	26WV-160520 [RALEP043]
Filed as Small Entity	

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	95	95
Utility Search Fee	2111	1	310	310
Utility Examination Fee	2311	1	125	125
Pages:				
Claims:				
Claims in excess of 20	2202	9	30	270
Miscellaneous-Filing:				
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**800**

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The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees) Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	Transmittal.pdf	64605 6086e69f810c4c114e8444a892c44b5685635d7b	no	1
Warnings:					
Information:					
2	Authorization for Extension of Time all replies	Ext.pdf	23276 36d91e4481d278aa2807782a07164e1ad8be570c	no	1
Warnings:					
Information:					
3	Drawings-only black and white line drawings	Dwgs.pdf	1041626 09761b355b11bea040a97f08bc28c7804473bc7e	no	38
Warnings:					
Information:					
4	Specification	Spec.pdf	1049157 aa0266ccae461ce4b2d793b24799d8f09054e80a	no	110
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	36502 e0fd07667569e1a3ce0fbaa1b21a67a363332447	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	2215166		

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<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.