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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
61/422,572	12/13/2010		220	RALEP044+		

CONFIRMATION NO. 9520

21912
VAN PELT, YI & JAMES LLP
10050 N. FOOTHILL BLVD #200
CUPERTINO, CA 95014

FILING RECEIPT



OC000000045120819

Date Mailed: 12/28/2010

Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. 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, Woodside, CA;

Power of Attorney:

Michael Schallopp--44319

If Required, Foreign Filing License Granted: 12/23/2010

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 61/422,572**

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No
Title

SYSTEM INTERFACES AND WORKFLOWS FOR DEVICE ASSISTED SERVICES

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page 1 of 3

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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.

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PROVISIONAL APPLICATION FOR
UNITED STATES PATENT

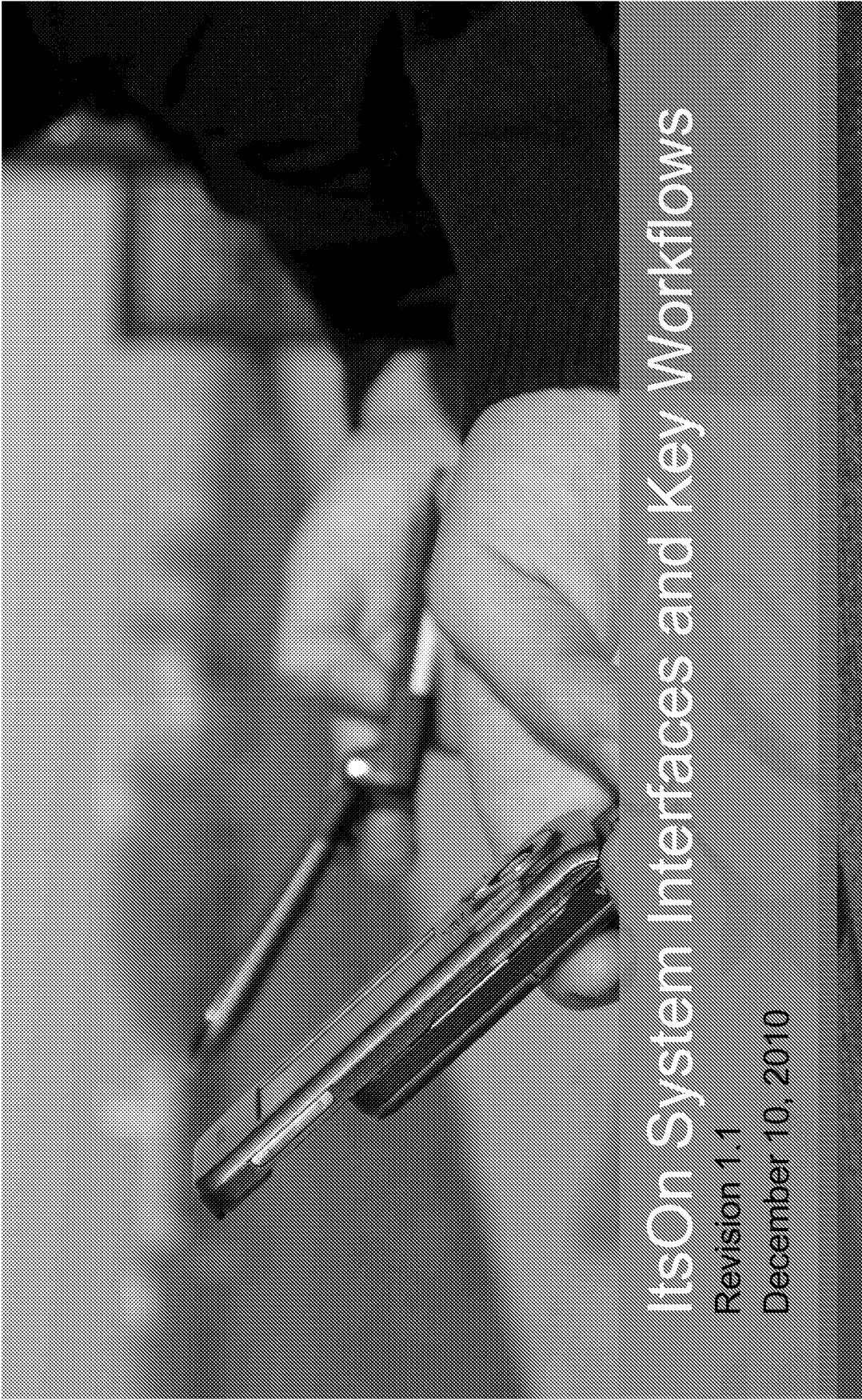
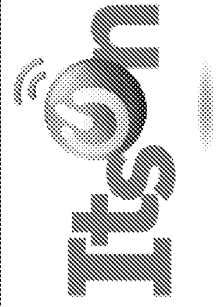
**SYSTEM INTERFACES AND WORKFLOWS FOR DEVICE
ASSISTED SERVICES**

By Inventors:

Gregory G. Raleigh
Woodside, CA
A Citizen of the United States

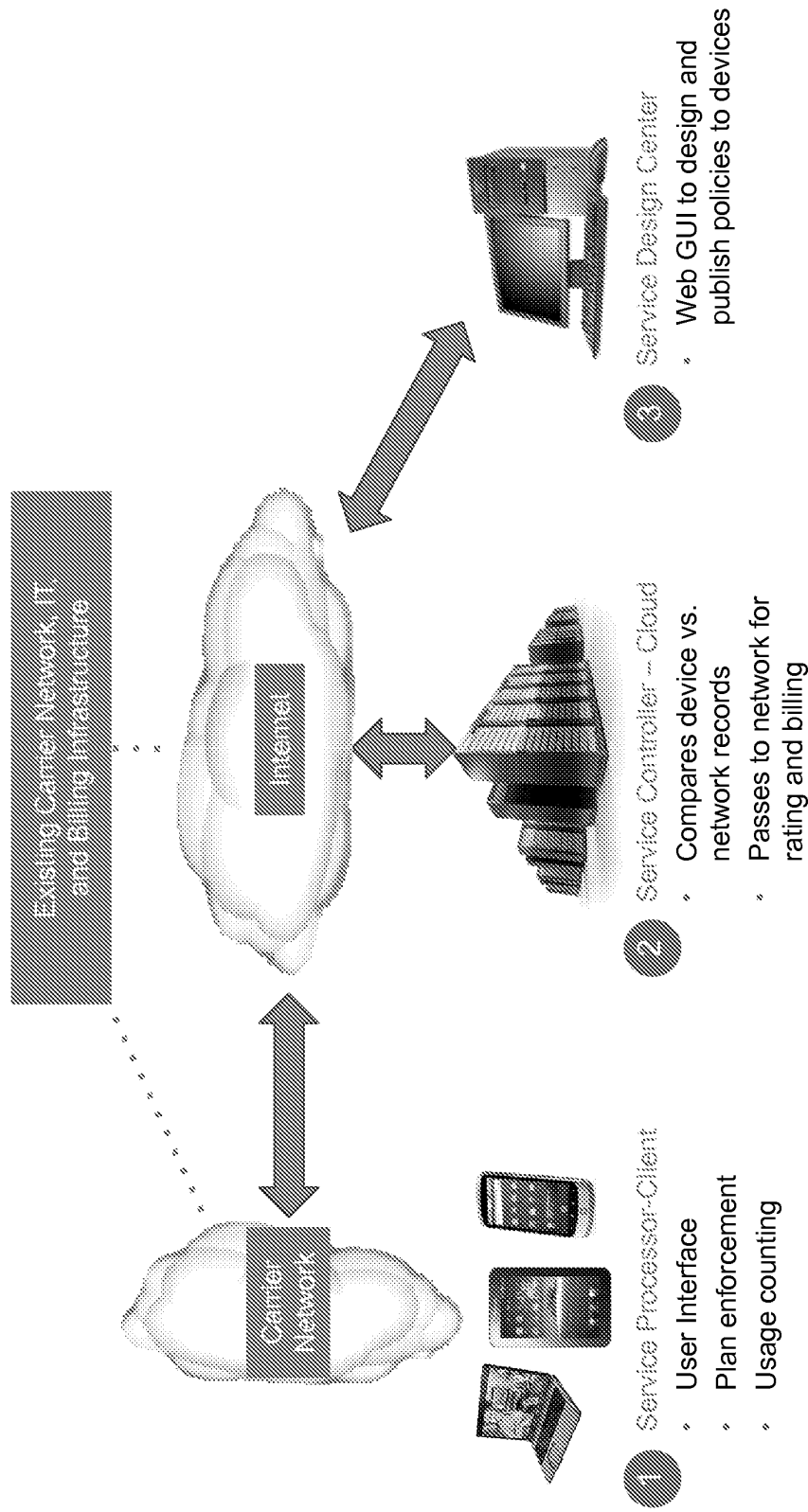
Assignee: Headwater Partners I LLC

VAN PELT, YI & JAMES LLP
10050 N. Foothill Blvd., Suite 200
Cupertino, CA 95014
Telephone 408-973-2585





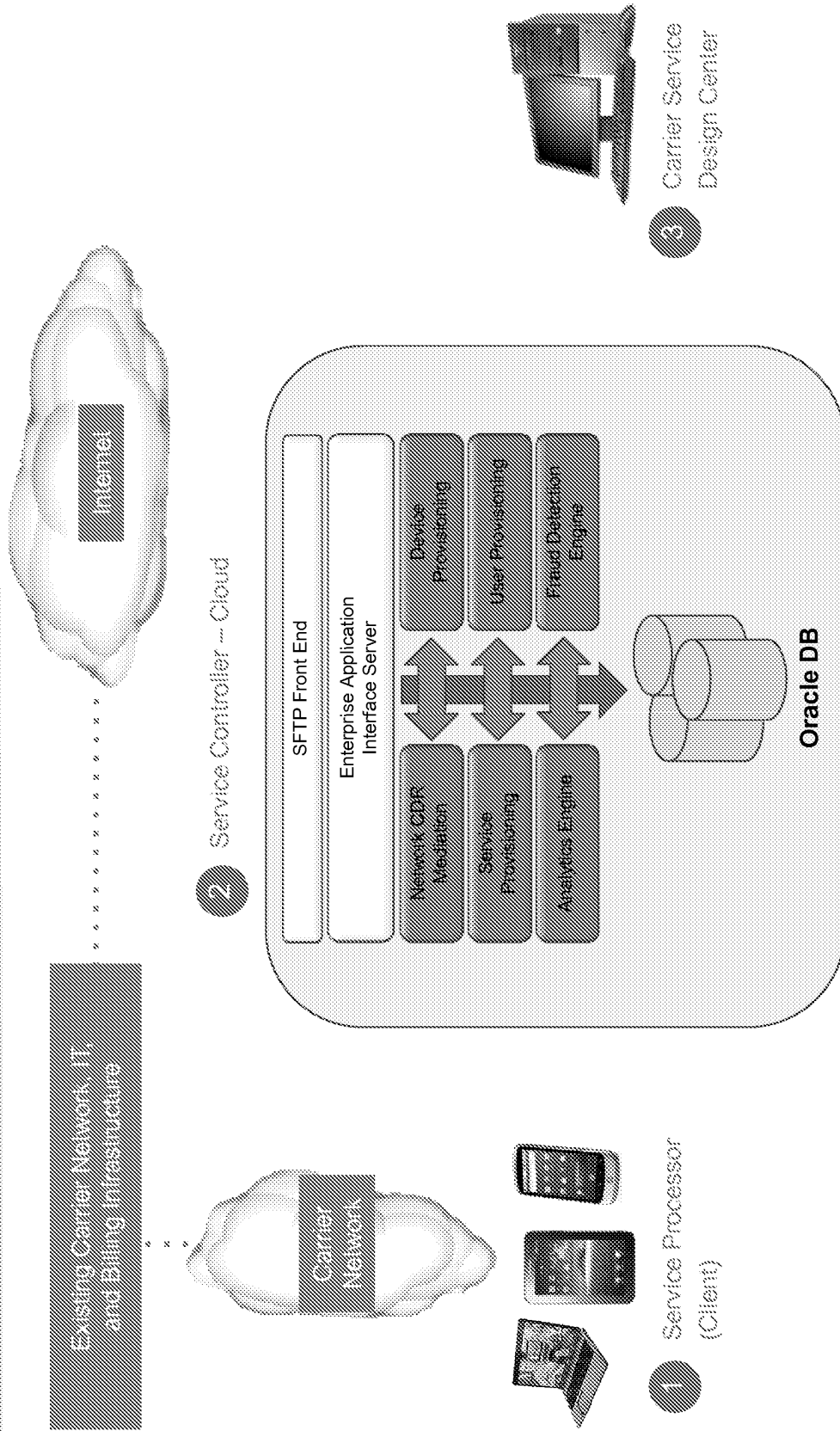
Platform Components



NO touching data path equipment and flows
NO heavy capex in centralized packet inspection solutions

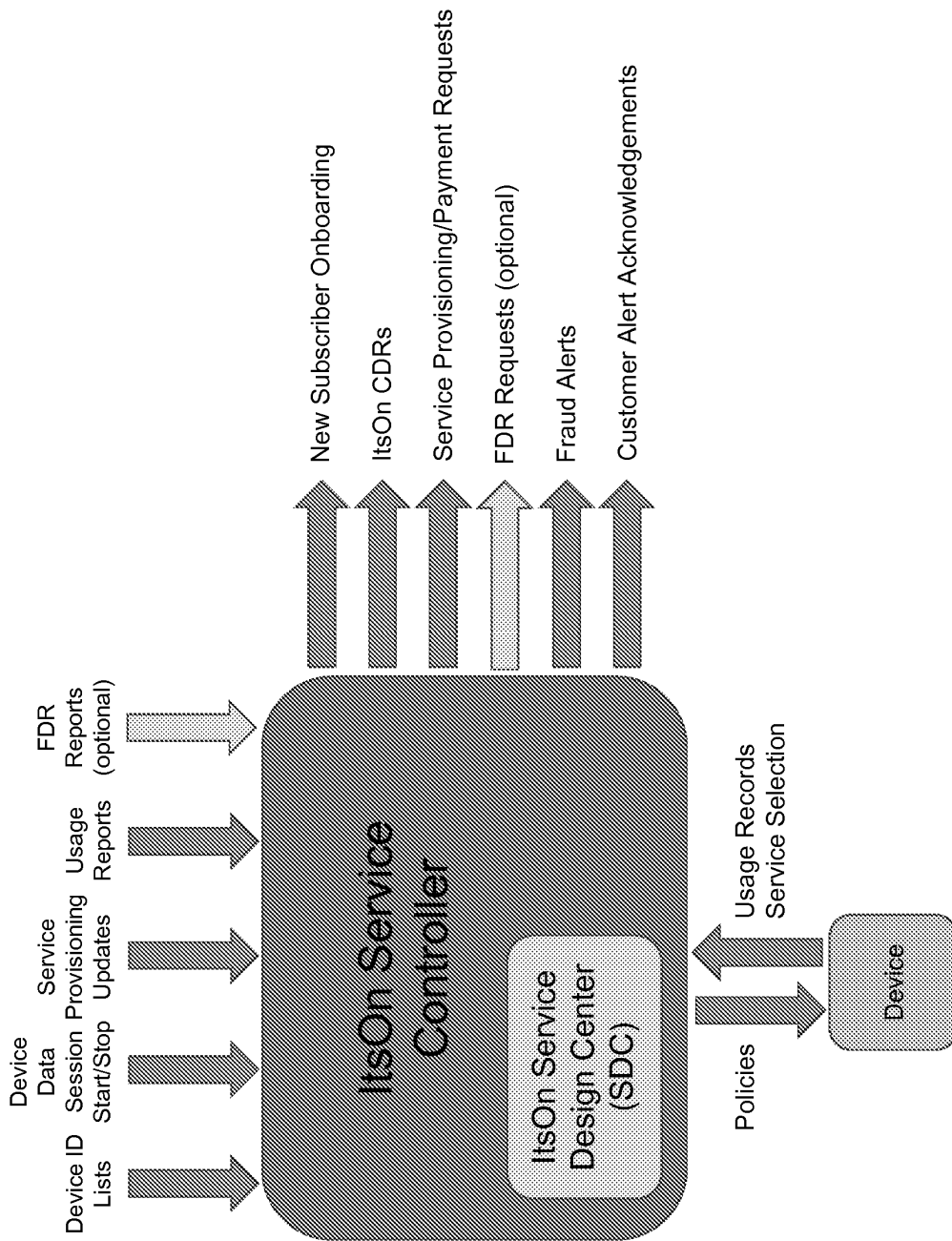


Service Controller - Operator Interface Elements





Service Controller Operator Interfaces







Device List Interface (Inbound)

- Purpose: Provide ItsOn Service Controller with device ID and credentials of devices that are ItsOn-enabled. Devices are loaded to the ItsOn Service Controller and associated with the appropriate Device Group.
Devices must be loaded to the ItsOn Service Controller prior to the end-user attempting to use the ItsOn Service Processor/Client on the device.
- Preferred Interface Strategy: Batch
 - Protocol: FTP
 - Format: Fixed length records
- Alternative Interface Strategy: Single Device
 - Protocol: Web Services
 - Format: XML
- Data Elements:
 - IMSI/MSID
 - MDN/MSIDSN
 - MEID/IMEI
 - Device Group

Device Data Session Start/Stop Interface (Inbound)



- Purpose: Provide ItsOn Service Controller notification when a user data session starts and stops.
- Preferred Interface Strategy: Single Device
 - Protocol: Radius or Diameter (Note: Diameter could provide “interim accounting” updates)
 - Format: Fixed length records
- Alternative Interface Strategy: Single Device
 - Protocol: Web Services
 - Format: XML
- Data Elements:
 - IMSI/MSID
 - MEID/IMEI
 - Status (Start/Stop/Interim)
 - Bytes MO (optional)
 - Bytes MT (optional)

Service Provisioning Update Interface (Inbound)



- * Purpose: Provide ItsOn Service Controller with updated service plan selections for a device. Service Provisioning Updates are sent only for ItsOn-enabled devices.
- * Interface is optional, depends on implementation
- * Preferred Interface Strategy: Single Device
 - Protocol: Web Services
 - Format: XML
- * Alternative Interface Strategy: Batch
 - Protocol: FTP
 - Format: Fixed length records
- * Data Elements:
 - IMSI/MSID
 - MDN/MSISDN
 - MEID/IMEI
 - Service plan selection information
 - Service plan/charging code(s)
 - Plan start/end date/time(s)



Network Usage Report Interface (Inbound)

- * Purpose: Provide ItsOn Service Controller with data usage information for a device.
Network Usage Reports are sent only for ItsOn-enabled devices.
- * Preferred Interface Strategy: Single Device
 - Protocol : Web Services
 - Format: XML
- * Alternative Interface Strategy: Batch
 - Protocol: FTP
 - Format: Fixed length records
- * Data Elements:
 - IMSI/MSID
 - MDN/MSISDN
 - MEID/IMEI
 - Usage report start time
 - Usage report end time
 - MO bytes used
 - MT bytes used
 - Service plan/charging code
 - Percentage of plan used



FDR Report Interface (Inbound)

- * Purpose: Provide ItsOn Service Controller with detailed data usage information for a device, based on a prior FDR Report request initiated by the ItsOn Service Controller
- * Interface is optional – depends on implementation
- * Preferred Interface Strategy: Single Device
 - Protocol1: Web Services
 - Format1: XML
 - or
 - Protocol2: GTP
 - Format2: GTP'
- * Alternative Interface Strategy: Batch
 - Protocol: FTP
 - Format: Fixed length records
- * Data Elements:

----- IMSI/MSID	* Usage data []
----- MDN/MSISDN	* Remote IP address
----- MEID/IMEI	* Remote port
----- Usage report start time	* MO bytes used
----- Usage report end time	* MT bytes used



New Subscriber Onboarding: Interface (Outbound)

- Purpose: Provide carrier systems with initial subscriber, billing, device and service selection information
- Preferred Interface Strategy: Single Device
 - Protocol: Web Services
 - Format: XML
- Alternative Interface Strategy: Batch
 - Protocol: FTP
 - Format: Fixed length records
- Data Elements:
 - Device data (MEID, IMSI, etc.)
 - Subscriber data (name, address, etc.)
 - Billing data (credit card info, billing address, etc.)
 - Selected service plan(s)/charging code(s)
 - Acceptance of T&C



ItsOn CDR Delivery Interface (Outbound)

- * Purpose: Provide carrier systems with detailed device usage information
- * Preferred Interface Strategy: Batch
 - Protocol: FTP
 - Format: Fixed length records
- * Alternative Interface Strategy: Single Device
 - Protocol: Web Services
 - Format: XML
- * Data Elements:
 - MEID/IMEI
 - IMSI/MSID
 - MDN/MSISDN
 - Start Time
 - End Time
 - Usage Data[]
 - Service plan/charging code
 - MO bytes used
 - MT bytes used

Service Provisioning/Payment Request Interface (Outbound)



- Purpose: Provide carrier systems with subscriber service selection information
- Preferred Interface Strategy: Single Device
 - Protocol: Web Services
 - Format: XML
- Alternative Interface Strategy: Batch
 - Protocol: FTP
 - Format: Fixed length records
- Data Elements:
 - MEID/IMEI
 - IMSI/MSID
 - MDN/MSISDN
 - Selected service plan(s)/charging code(s)
 - T&C Acceptance
 - Payment Data
 - Type (e.g., credit card, debit card, prepaid voucher, charge card on file, etc.)



FDR Request Interface (Outbound)

- * Purpose: Request FDRs for a specific subscriber for a specific period of time
- * Interface is optional – depends on implementation
- * Preferred Interface Strategy: Single Device
 - Protocol: Web Services
 - Format: XML
- * Alternative Interface Strategy: Batch
 - Protocol: FTP
 - Format: Fixed length records
- * Data Elements:
 - MEID/IMEI
 - IMSI/MSID
 - MDN/MSISDN
 - Start time
 - End time



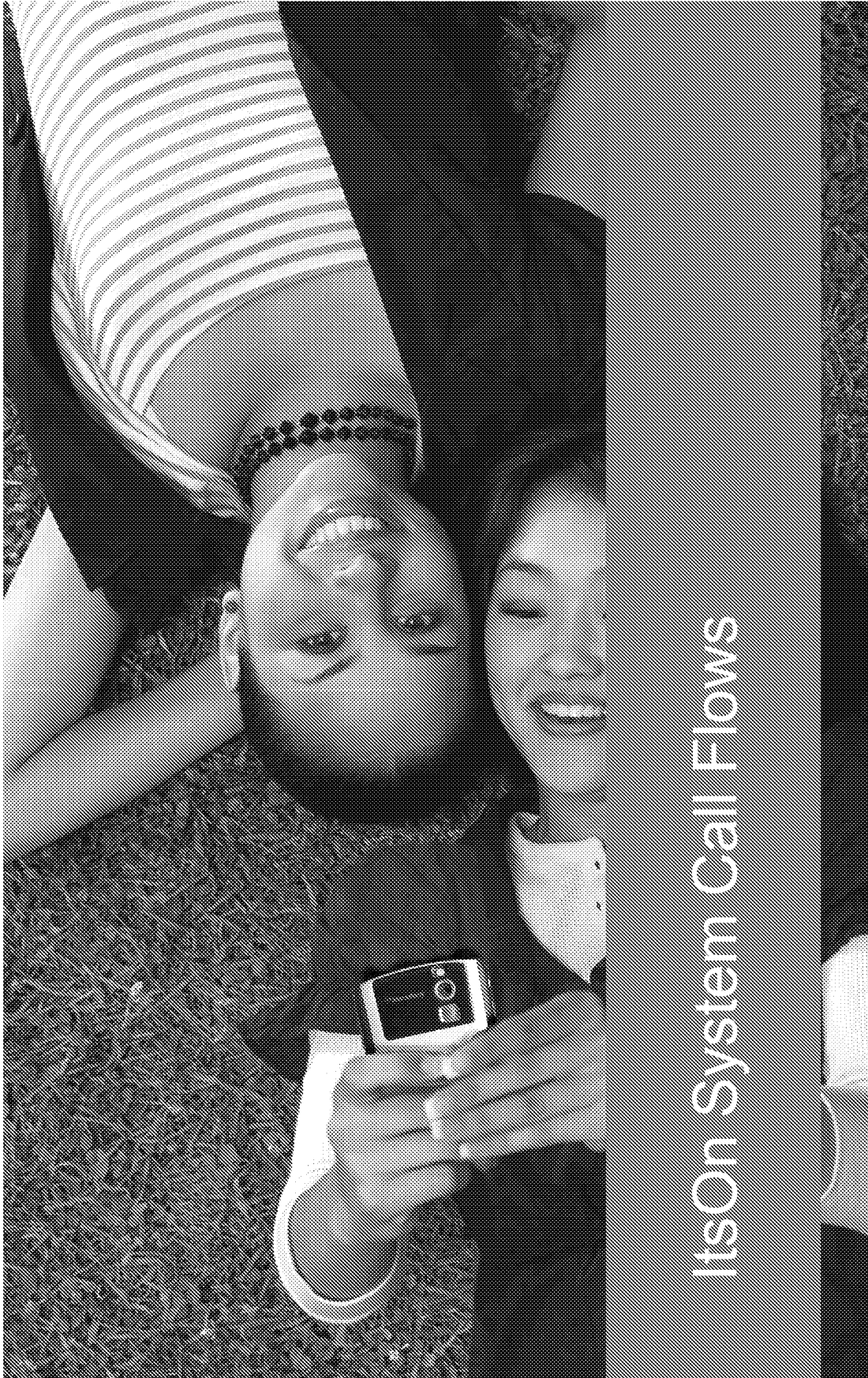
Fraud Alert Interface (Outbound)

- * Purpose: Notify carrier systems of potential fraud detection
- * Preferred Interface Strategy: Single Device
 - Protocol: Web Services
 - Format: XML
- * Alternative Interface Strategy: Batch
 - Protocol: FTP
 - Format: Fixed length records
- * Data Elements:
 - MEID/IMEI
 - IMSI/MSID
 - MDN/MSISDN
 - Fraud start time
 - Fraud end time
 - Affected service plan/charging code
 - Fraud Reason Code (e.g., no device report, count mismatch, etc.)

Customer Acknowledgement Interface (Outbound)



- Purpose: Notify carrier systems of end-user selecting “Acknowledge” on notifications that have an “Acknowledge” option specified
- Preferred Interface Strategy: Single Device
 - Protocol: Web Services
 - Format: XML
- Alternative Interface Strategy: Batch
 - Protocol: FTP
 - Format: Fixed length records
- Data Elements:
 - MEID/IMEI
 - IMSI/MSID
 - MDN/MSISDN
 - Acknowledge time
 - Acknowledge event (e.g., allow overage)
 - Acknowledge service plan/charging code(e.g., 50 MB browsing plan)



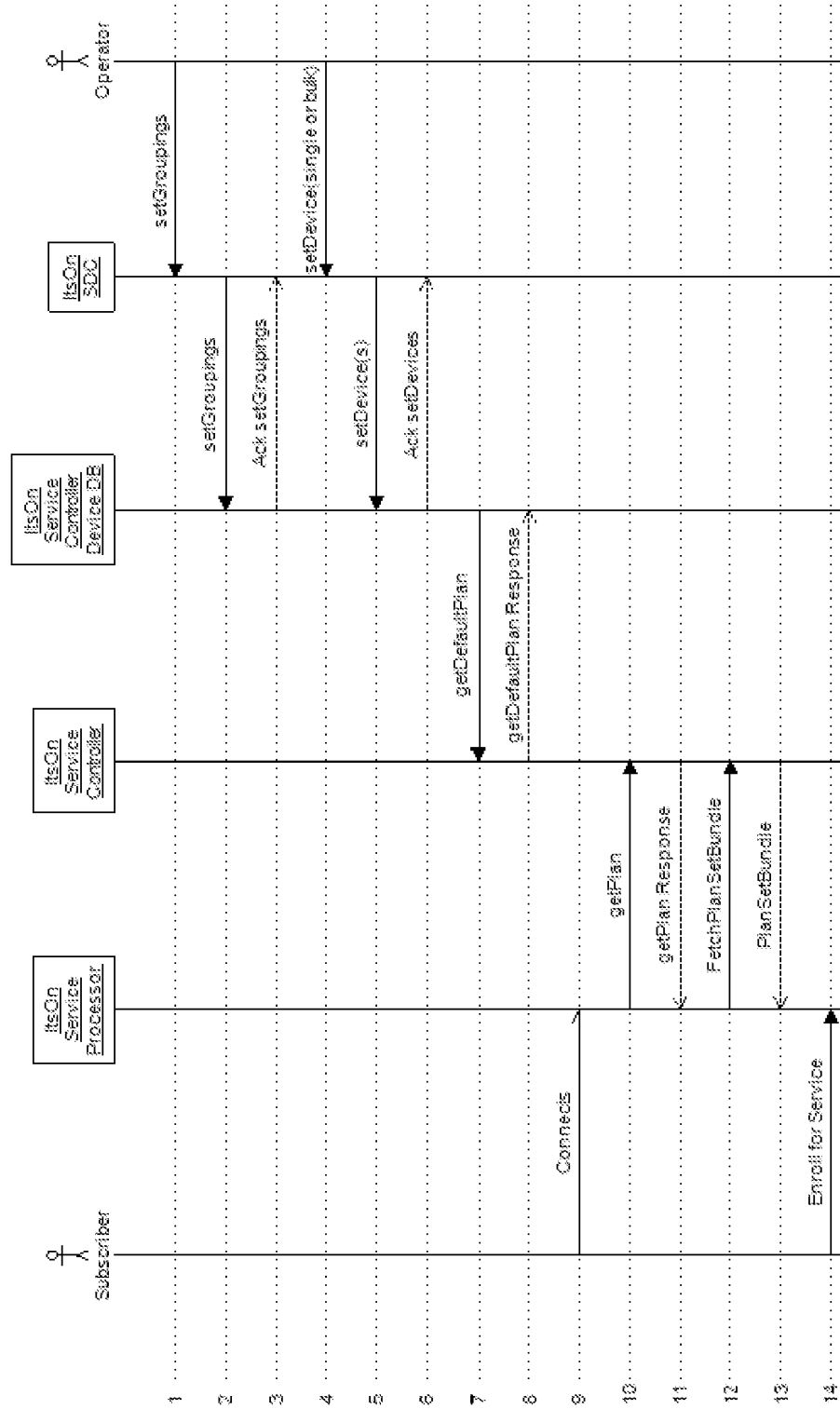


Introduction

- This document provides high-level call flows to describe the following workflows from the perspective of the ItsOn Service Controller
 - Device provisioning
 - Prepay and post pay plan purchasing
 - Prepay and post pay CDR processing
 - Fraud alerting
 - Subscriber notification acknowledgement processing
- Operator and network interfaces are made generic for the purposes of this document
- Details of processing and workflow behind the network and operator interfaces are not defined in this document
- This document will be used as a basis for defining exact workflows for the specific operator implementation of the ItsOn Service Controller

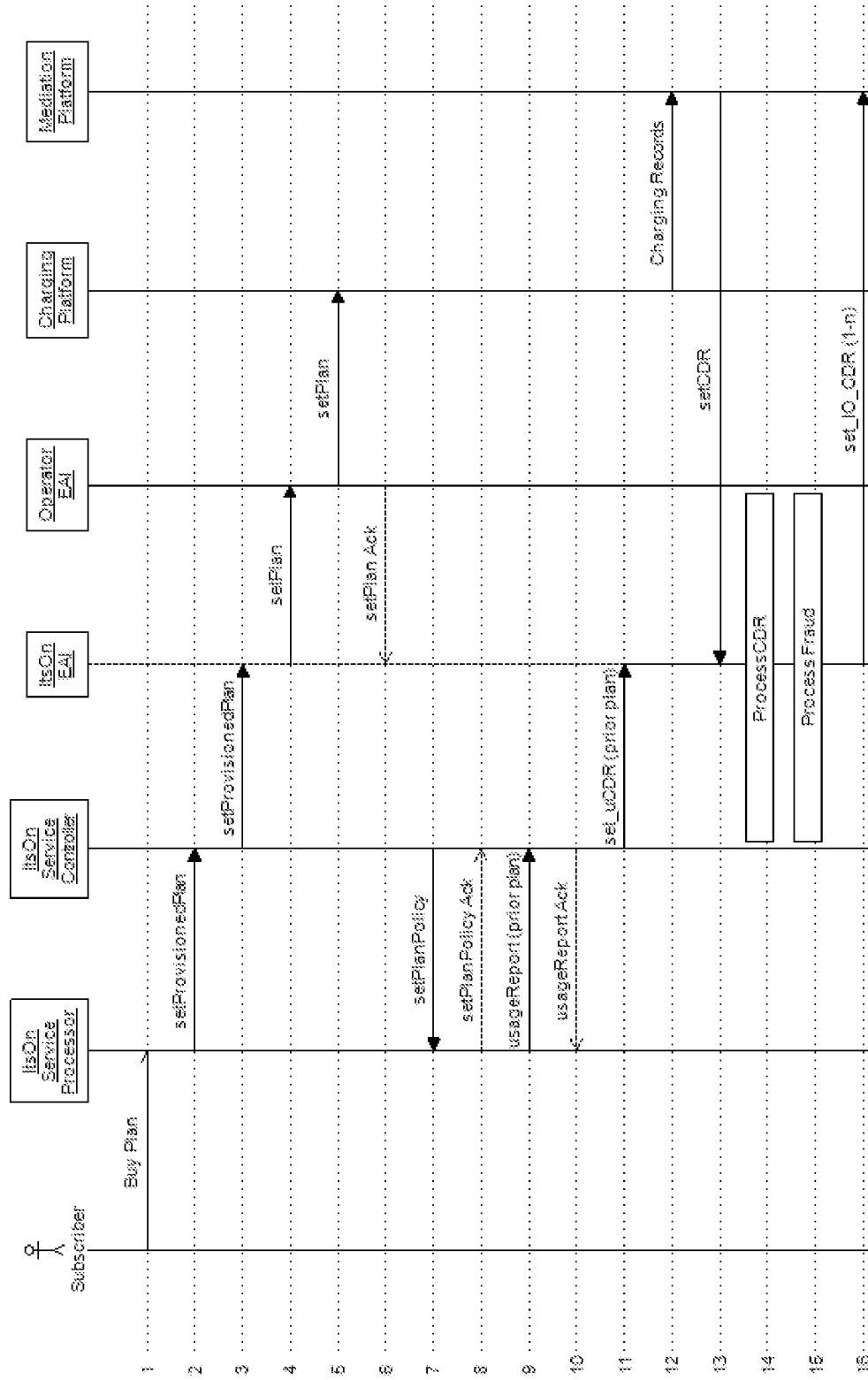


Device Provisioning Workflow



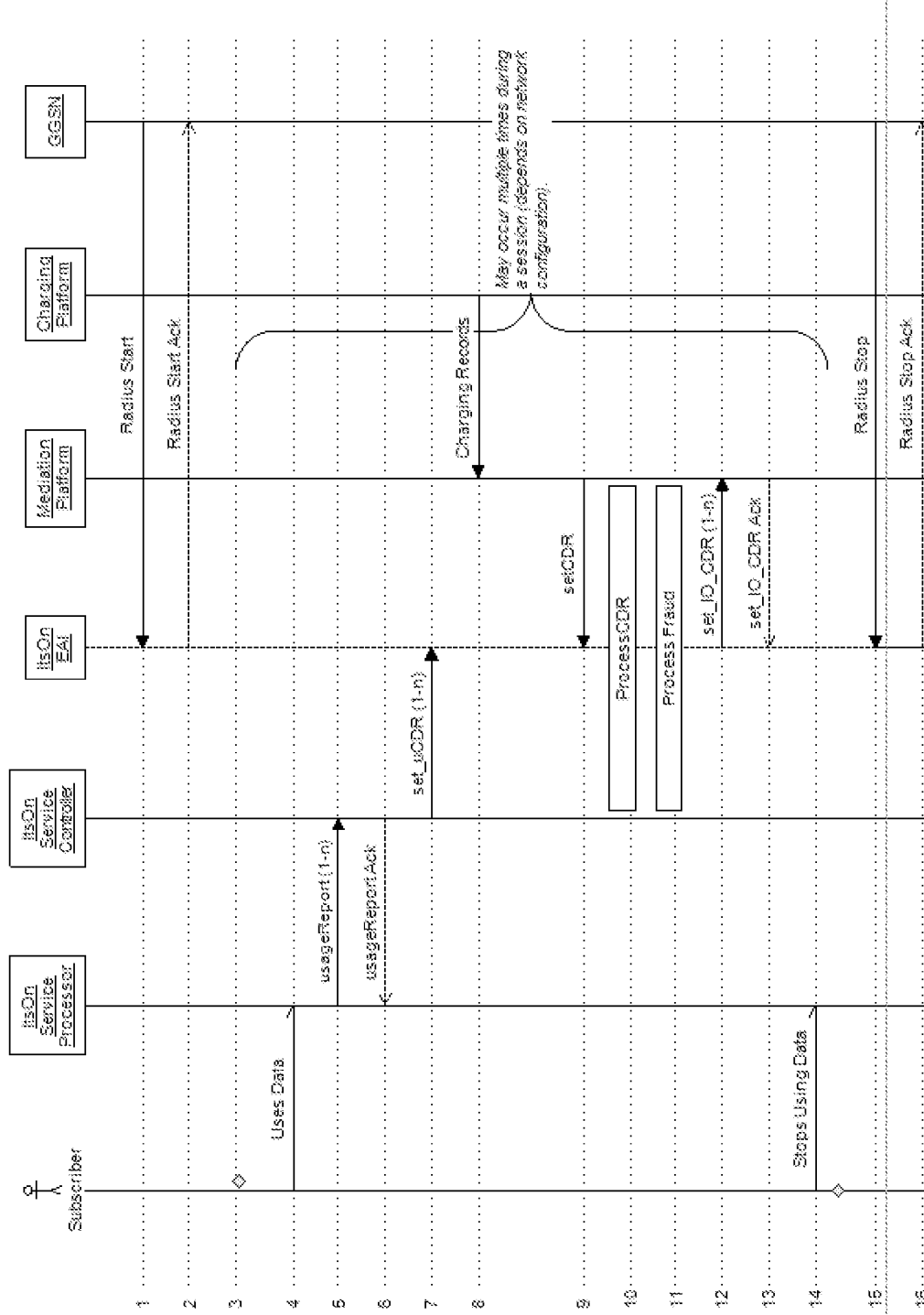


Post-pay Purchase Workflow

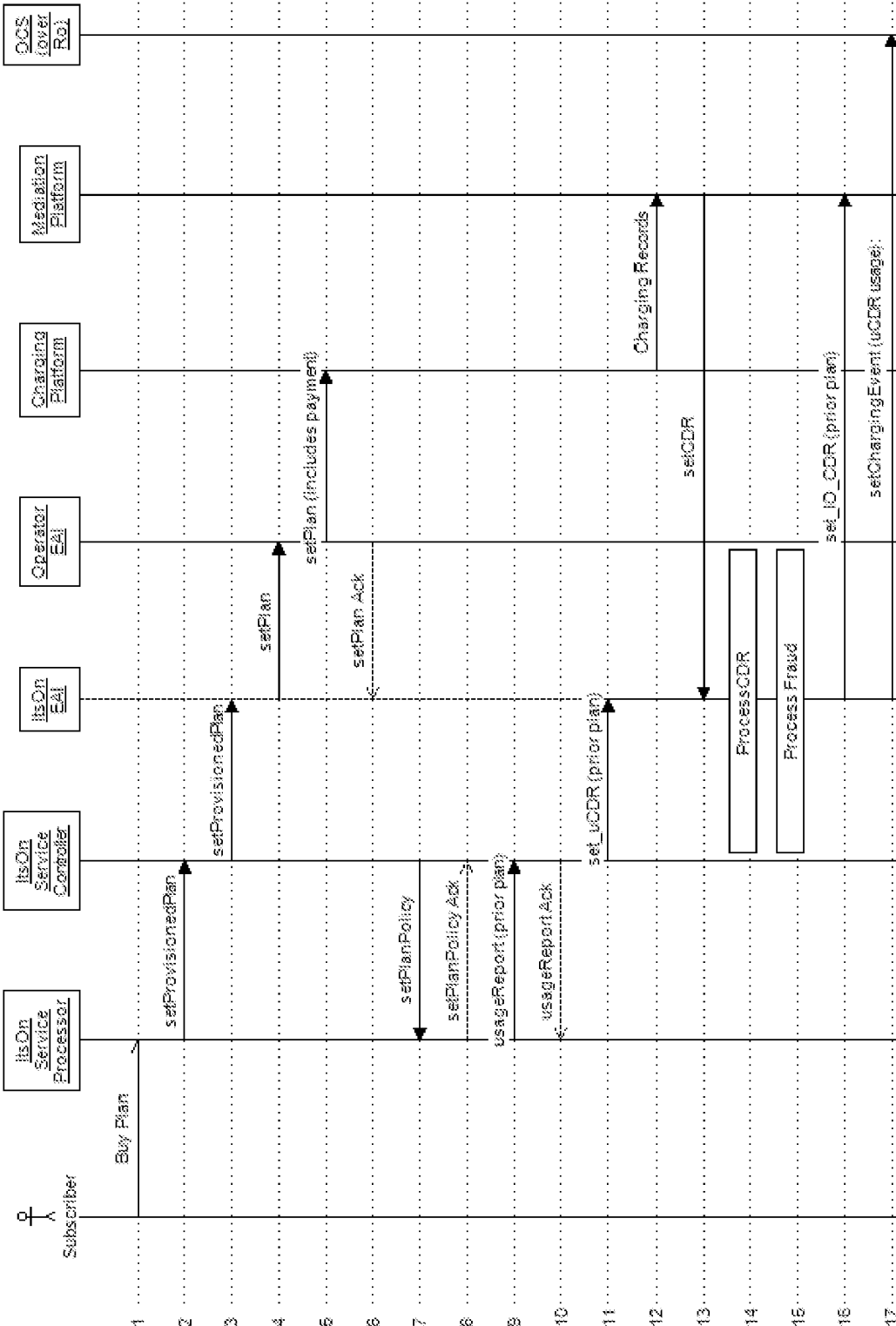




Post-pay CDR Processing Workflow

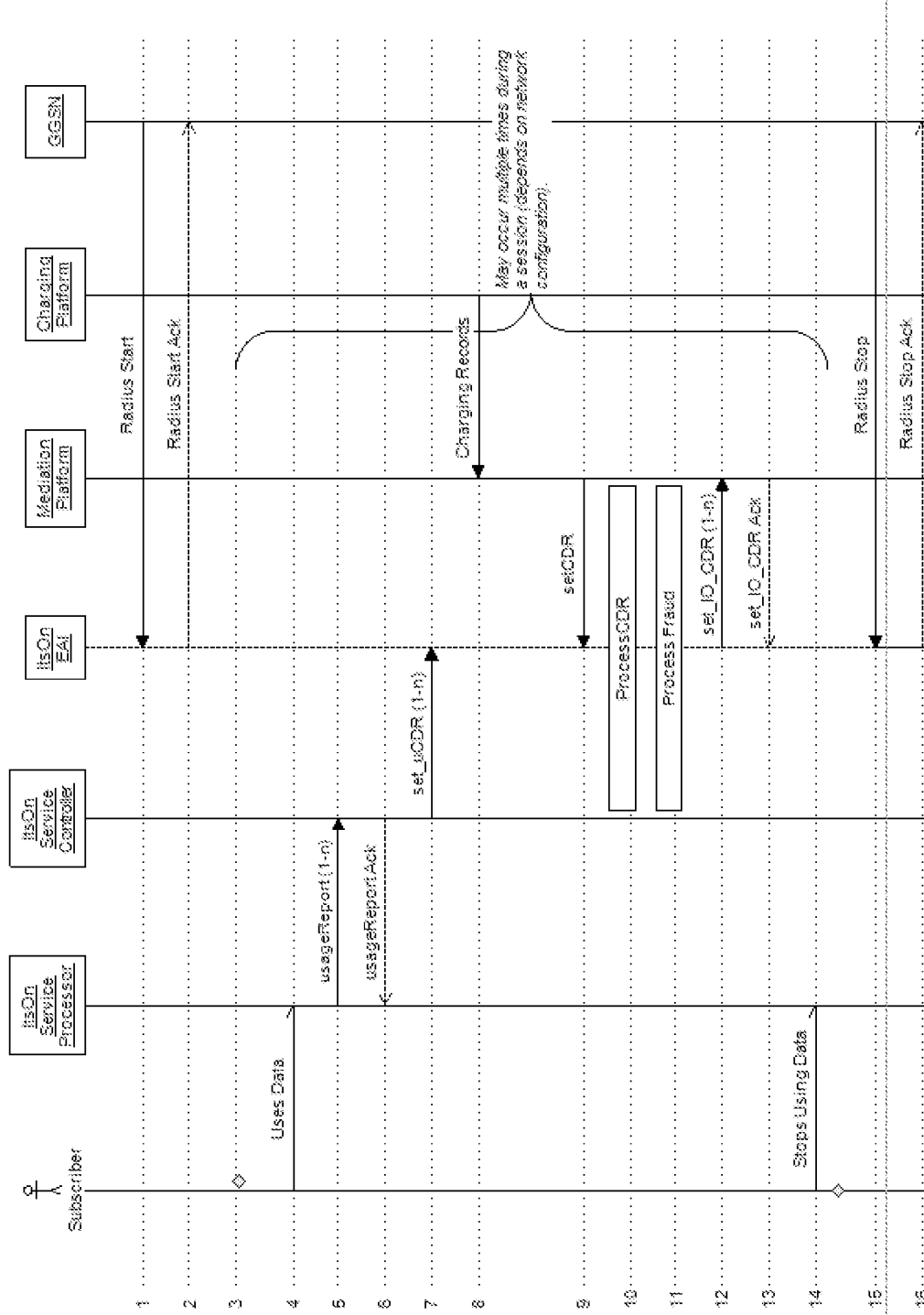


Prepay Purchase Workflow



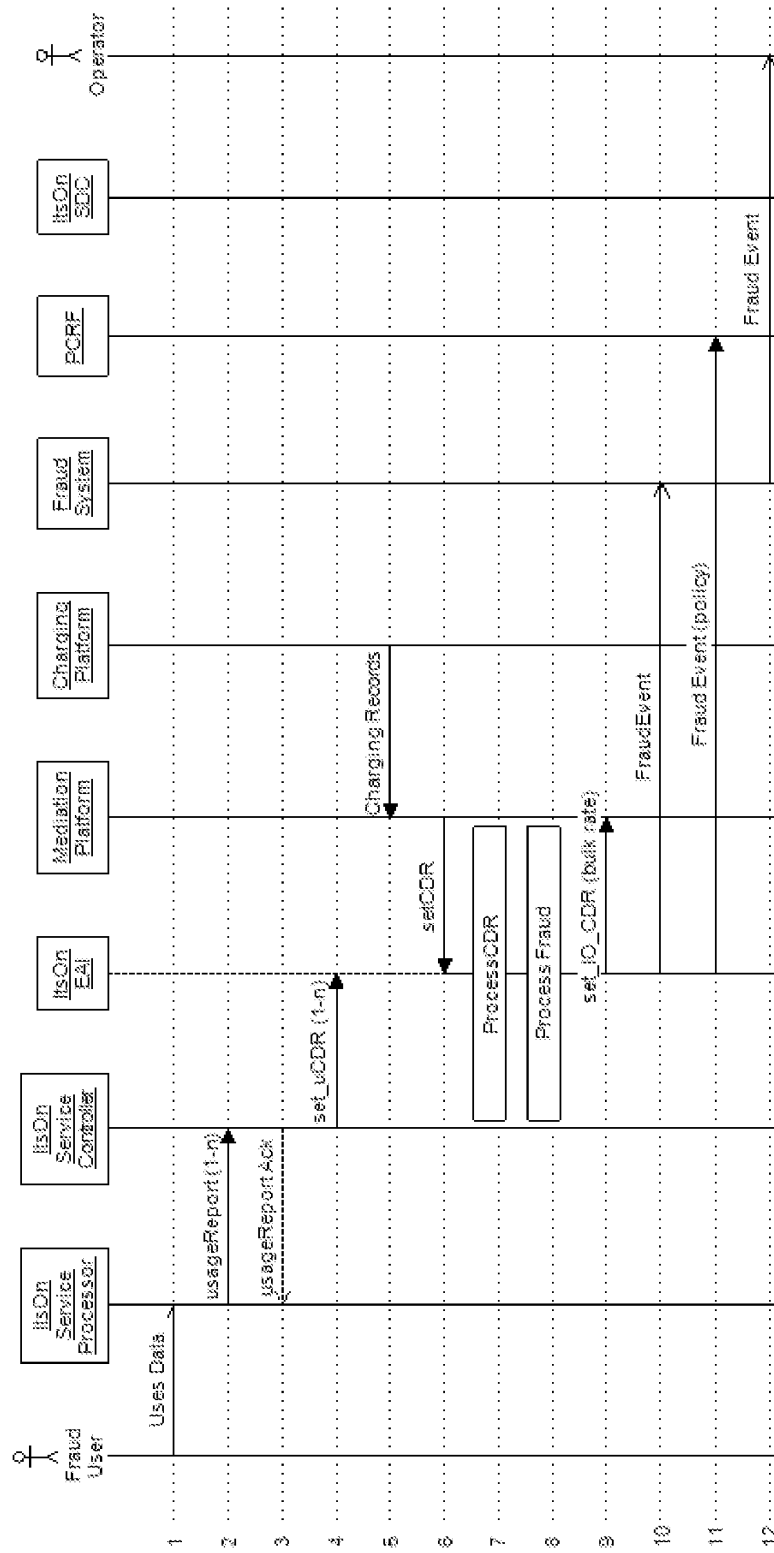


Prepay CDR Processing Workflow



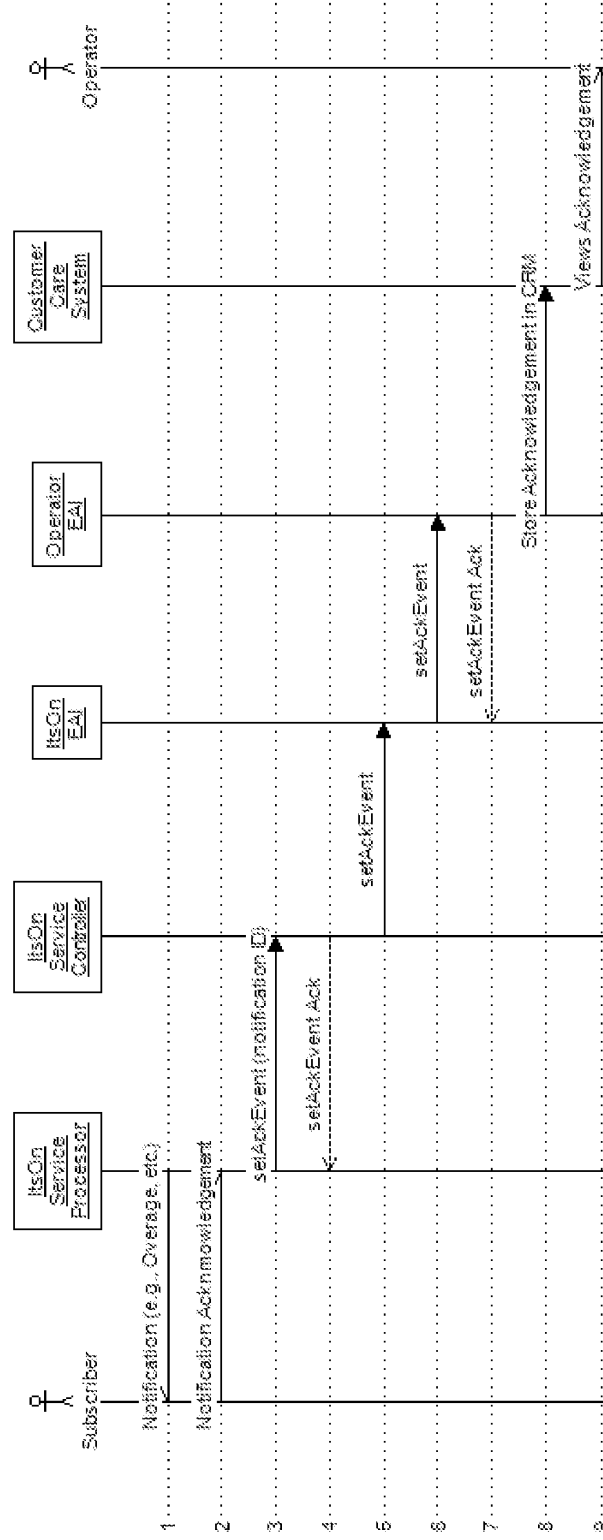


Fraud Alert Processing Workflow





Notification Acknowledgement Processing Workflow



Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		SYSTEM INTERFACES AND WORKFLOWS FOR DEVICE ASSISTED SERVICES		
First Named Inventor/Applicant Name:		Gregory G. Raleigh		
Filer:		Michael J. Schallop		
Attorney Docket Number:		RALEP044+		
Filed as Large Entity				
Provisional Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Provisional application filing	1005	1	220	220
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				220

Electronic Acknowledgement Receipt	
EFS ID:	9024304
Application Number:	61422572
International Application Number:	
Confirmation Number:	9520
Title of Invention:	SYSTEM INTERFACES AND WORKFLOWS FOR DEVICE ASSISTED SERVICES
First Named Inventor/Applicant Name:	Gregory G. Raleigh
Customer Number:	21912
Filer:	Michael J. Schallop/Veronica Pula
Filer Authorized By:	Michael J. Schallop
Attorney Docket Number:	RALEP044+
Receipt Date:	13-DEC-2010
Filing Date:	
Time Stamp:	18:45:15
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$220
RAM confirmation Number	6177
Deposit Account	500685
Authorized User	
<p>The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:</p> <p>Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)</p> <p>Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)</p>	

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Provisional Cover Sheet (SB16)	RALEP044plus_Provisional_Application_Transmittal.pdf	1000006 3f9e321d03c18c6c64f181b742ccb781017232	no	3

Warnings:

Information:

2		RALEP044plus_App.pdf	2508536 14809a27acca03b1b7ccbf1a8372b8bf1ef057	yes	26
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Multipart Description/PDF files in .zip description

Document Description	Start	End
Transmittal of New Application	1	1
Specification	2	26

Warnings:

Information:

3	Fee Worksheet (PTO-875)	fee-info.pdf	29330 03c9bb12c27e780b27438b5375b537ae9bb2b8bb8	no	2
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Warnings:

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Total Files Size (in bytes): 3537872

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Provisional Application for Patent Cover Sheet

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c)

Inventor(s)

Inventor 1

Remove

Given Name	Middle Name	Family Name	City	State	Country i
Gregory	G.	Raleigh	Woodside	CA	US

All Inventors Must Be Listed – Additional Inventor Information blocks may be generated within this form by selecting the **Add** button.**Add****Title of Invention**

SYSTEM INTERFACES AND WORKFLOWS FOR DEVICE ASSISTED SERVICES

Attorney Docket Number (if applicable)

RALEP044+

Correspondence Address

Direct all correspondence to (select one):

☒ The address corresponding to Customer Number☐ Firm or Individual Name

Customer Number

21912

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No.☐ Yes, the name of the U.S. Government agency and the Government contract number are:

Entity Status

Applicant claims small entity status under 37 CFR 1.27

- ☐ Yes, applicant qualifies for small entity status under 37 CFR 1.27
- ☒ No

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Signature

Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/Michael J. Schallop/			Date (YYYY-MM-DD)	2010-12-13
First Name	Michael	Last Name	Schallop	Registration Number (If appropriate)	44319

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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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