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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	25000-12196
	Application Number	
Title of Invention	Dynamic Real-Time Tiered Client Access	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1

Applicant Authority ◉ Inventor ○ Legal Representative under 35 U.S.C. 117 ○ Party of Interest under 35 U.S.C. 118

Prefix	Given Name	Middle Name	Family Name	Suffix
	David	L.	Brown	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Jupiter	State/Province	FL	Country of Residence	US

Citizenship under 37 CFR 1.41(b) US

Mailing Address of Applicant:

Address 1	689 NW Stonepine Dr		
Address 2			
City	Bend	State/Province	OR
Postal Code	97701	Country	US

Applicant 2

Applicant Authority ◉ Inventor ○ Legal Representative under 35 U.S.C. 117 ○ Party of Interest under 35 U.S.C. 118

Prefix	Given Name	Middle Name	Family Name	Suffix
	Fred	S.	Hirt	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Brookfield	State/Province	IL	Country of Residence	US

Citizenship under 37 CFR 1.41(b) US

Mailing Address of Applicant:

Address 1	689 NW Stonepine Dr		
Address 2			
City	Bend	State/Province	OR
Postal Code	97701	Country	US

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

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

INTEL-1008
U.S. Patent 8,457,672

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	25000-12196
	Application Number	
Title of Invention	Dynamic Real-Time Tiered Client Access	

Customer Number	00758		
Email Address	gsueoka@fenwick.com	Add Email	Remove Email

Application Information:

Title of the Invention	Dynamic Real-Time Tiered Client Access		
Attorney Docket Number	25000-12196	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter			
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	42	Suggested Figure for Publication (if any)	
Publication Information:			
☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)			
☐ Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not been and will not be the subject of an application filed in another country, or under a multilateral agreement, that requires publication at eighteen months after filing.			

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ US Representative (37 CFR 11.9)
Customer Number	00758		

Domestic Priority Information:

This section allows for the applicant to claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c). Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
current	non provisional of	60760362	2006-01-06

Additional Domestic Priority Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	25000-12196
	Application Number	
Title of Invention	Dynamic Real-Time Tiered Client Access	

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

Remove

Application Number	Country [i]	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			○ Yes ◉ No

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1

If the Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information:

Address 1			
Address 2			
City		**State/Province**	
Country [i]		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee Data may be generated within this form by selecting the **Add** button.

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/Wasif H. Qureshi/			Date (YYYY-MM-DD)	2007-01-05
First Name	Wasif H.	Last Name	Qureshi	Registration Number	51048

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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.**

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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 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.

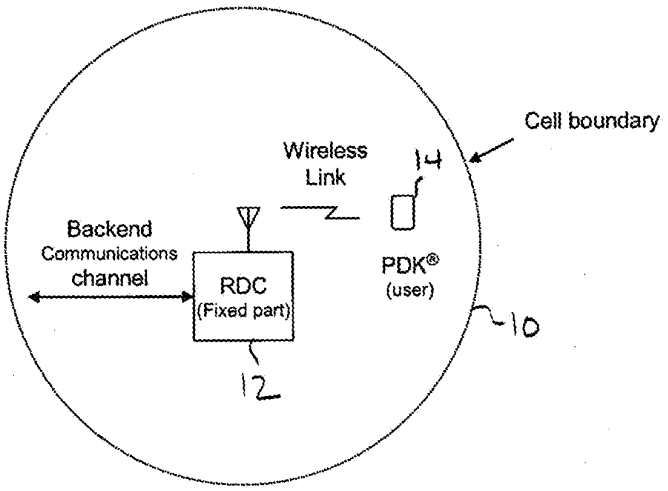


FIGURE 1

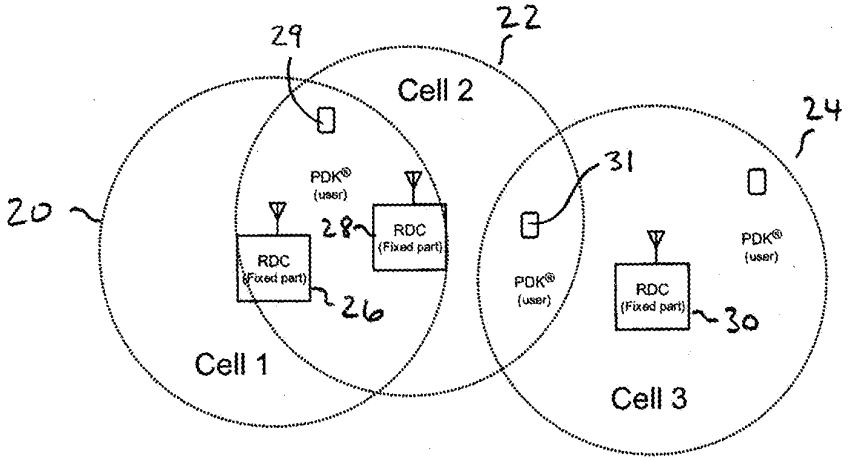


FIGURE 2

INTEL-1008
U.S. Patent 8,457,672

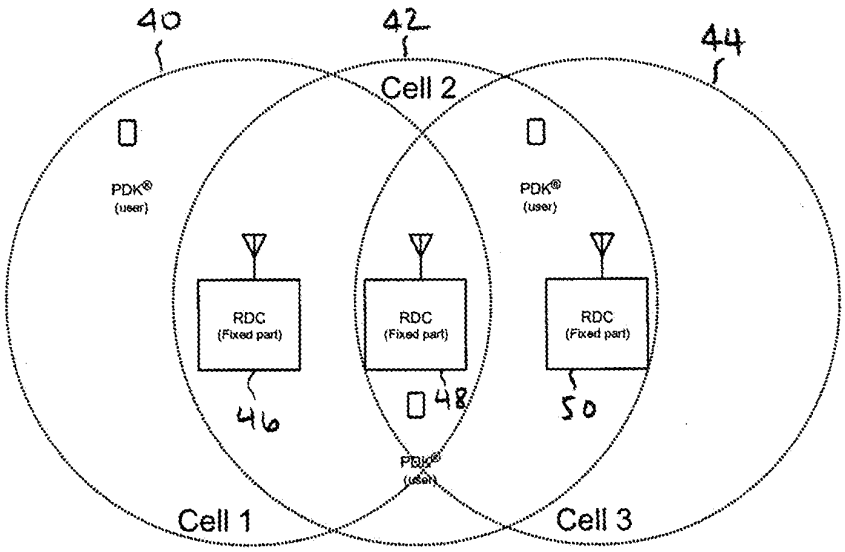


FIGURE 3

INTEL-1008
U.S. Patent 8,457,672

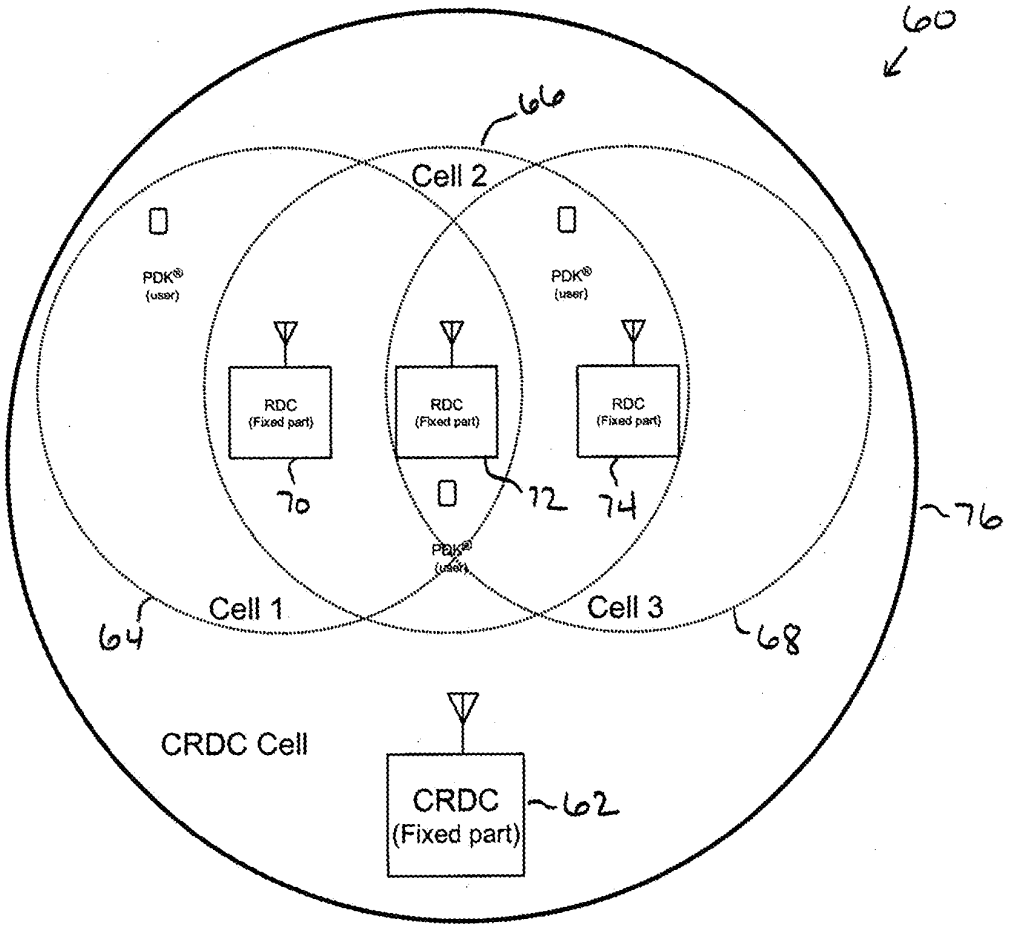

60
66
Cell 2
PDK®
(user)
PDK®
(user)
RDC
(Fixed part)
RDC
(Fixed part)
RDC
(Fixed part)
70
72
74
76
PDK®
(user)
64
Cell 1
Cell 3
68
CRDC Cell
CRDC
(Fixed part)
62

FIGURE 4

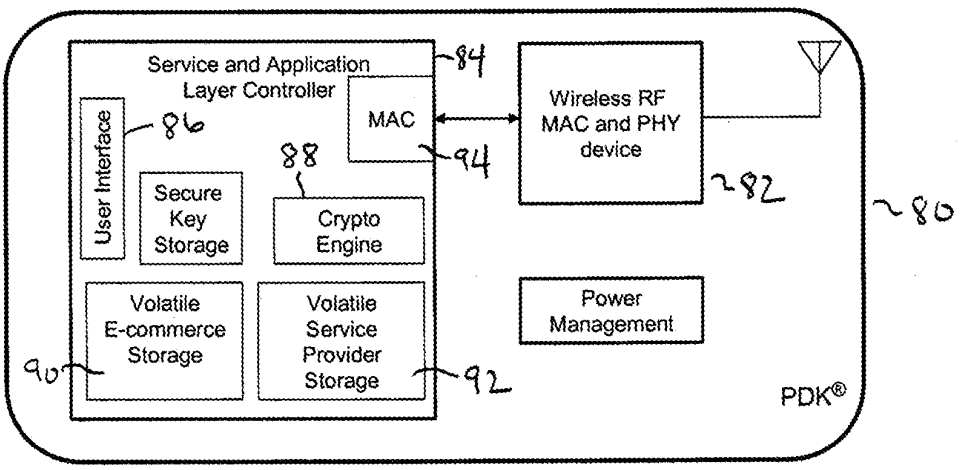

Service and Application Layer Controller
84
User Interface
86
MAC
94
Wireless RF MAC and PHY device
82
80
88
Secure Key Storage
Crypto Engine
Volatile E-commerce Storage
90
Volatile Service Provider Storage
92
Power Management
PDK®

FIGURE 5

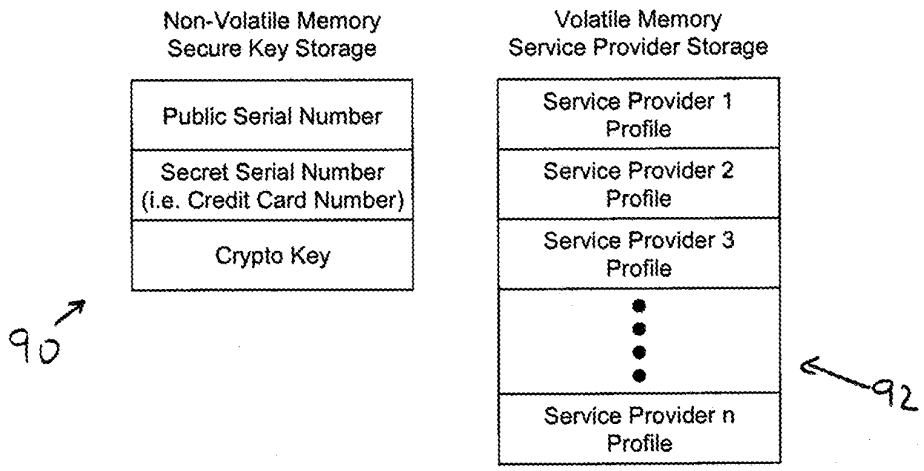

Non-Volatile Memory
Secure Key Storage
Public Serial Number
Secret Serial Number
(i.e. Credit Card Number)
Crypto Key
90
Volatile Memory
Service Provider Storage
Service Provider 1
Profile
Service Provider 2
Profile
Service Provider 3
Profile
Service Provider n
Profile
92

FIGURE 6

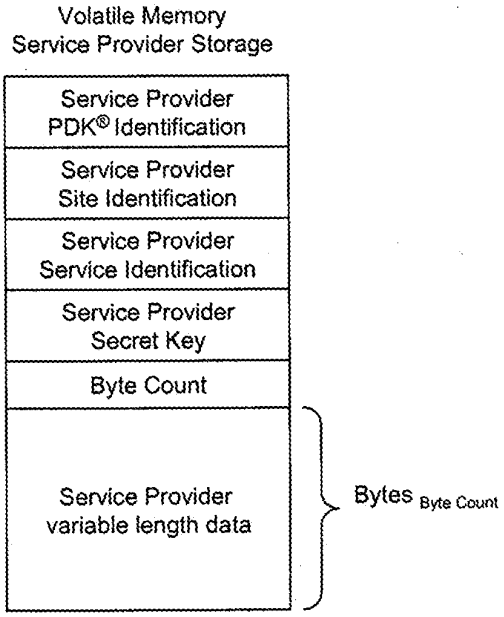

Volatile Memory
Service Provider Storage
Service Provider PDK® Identification
Service Provider Site Identification
Service Provider Service Identification
Service Provider Secret Key
Byte Count
Service Provider variable length data
Bytes Byte Count

FIGURE 7

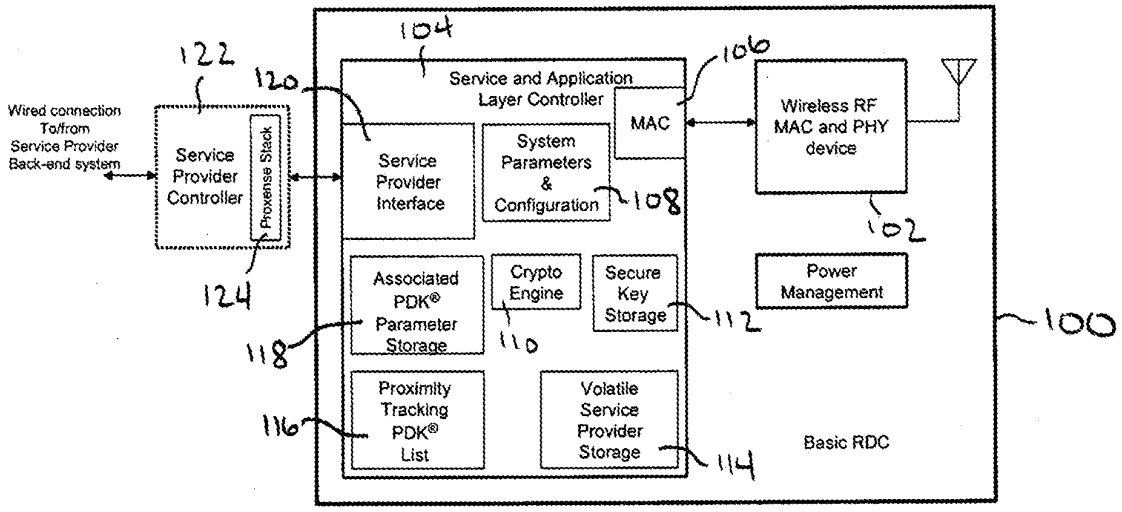


FIGURE 8

INTEL-1008
U.S. Patent 8,457,672

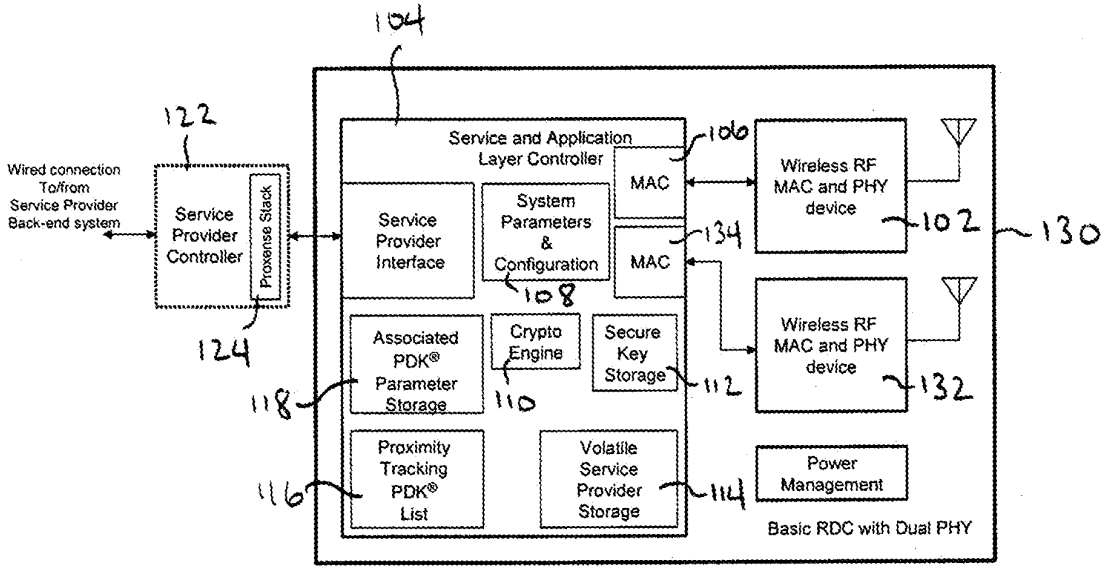

104
122
Wired connection To/from Service Provider Back-end system
Service Provider Controller
Proxense Stack
124
Service and Application Layer Controller
106
Service Provider Interface
System Parameters & Configuration
108
MAC
MAC
134
Wireless RF MAC and PHY device
102
130
Wireless RF MAC and PHY device
132
Associated PDK® Parameter Storage
118
Crypto Engine
110
Secure Key Storage
112
Proximity Tracking PDK® List
116
Volatile Service Provider Storage
114
Power Management
Basic RDC with Dual PHY

FIGURE 9

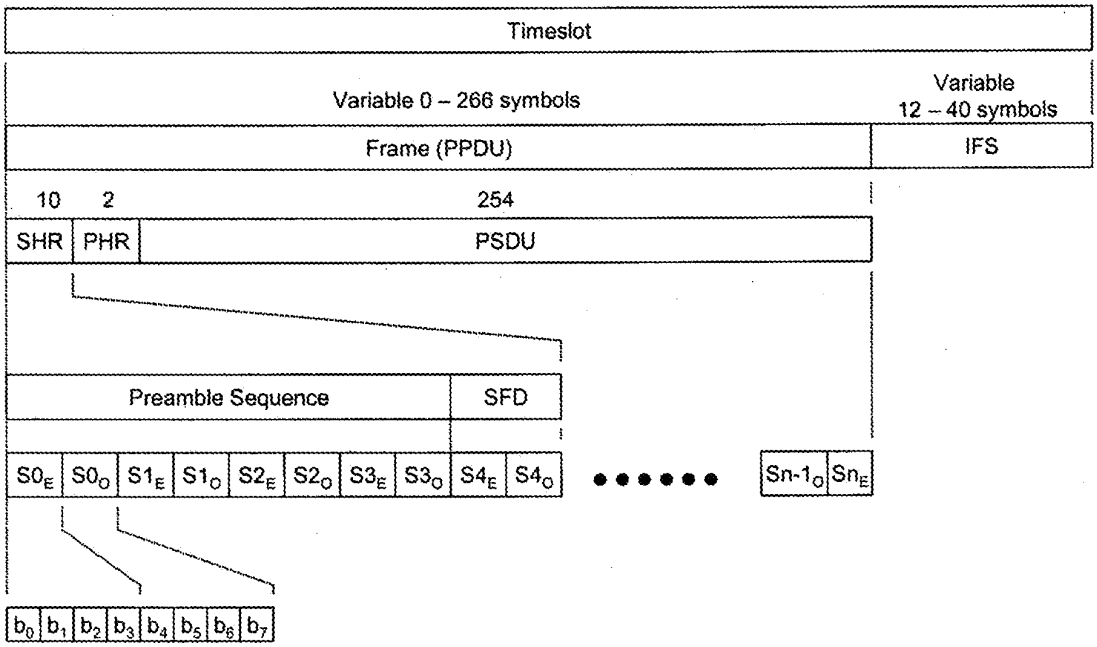

Timeslot
Variable 0 – 266 symbols
Variable
12 – 40 symbols
Frame (PPDU)
IFS
10
2
254
SHR
PHR
PSDU
Preamble Sequence
SFD
S0E
S0O
S1E
S1O
S2E
S2O
S3E
S3O
S4E
S4O
Sn-1O
SnE
b0
b1
b2
b3
b4
b5
b6
b7

FIGURE 10

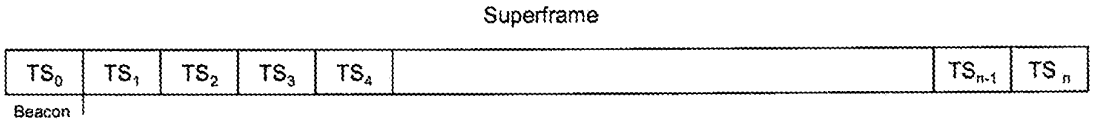


FIGURE 11

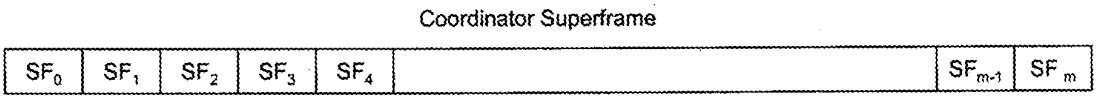


FIGURE 12

INTEL-1008
U.S. Patent 8,457,672

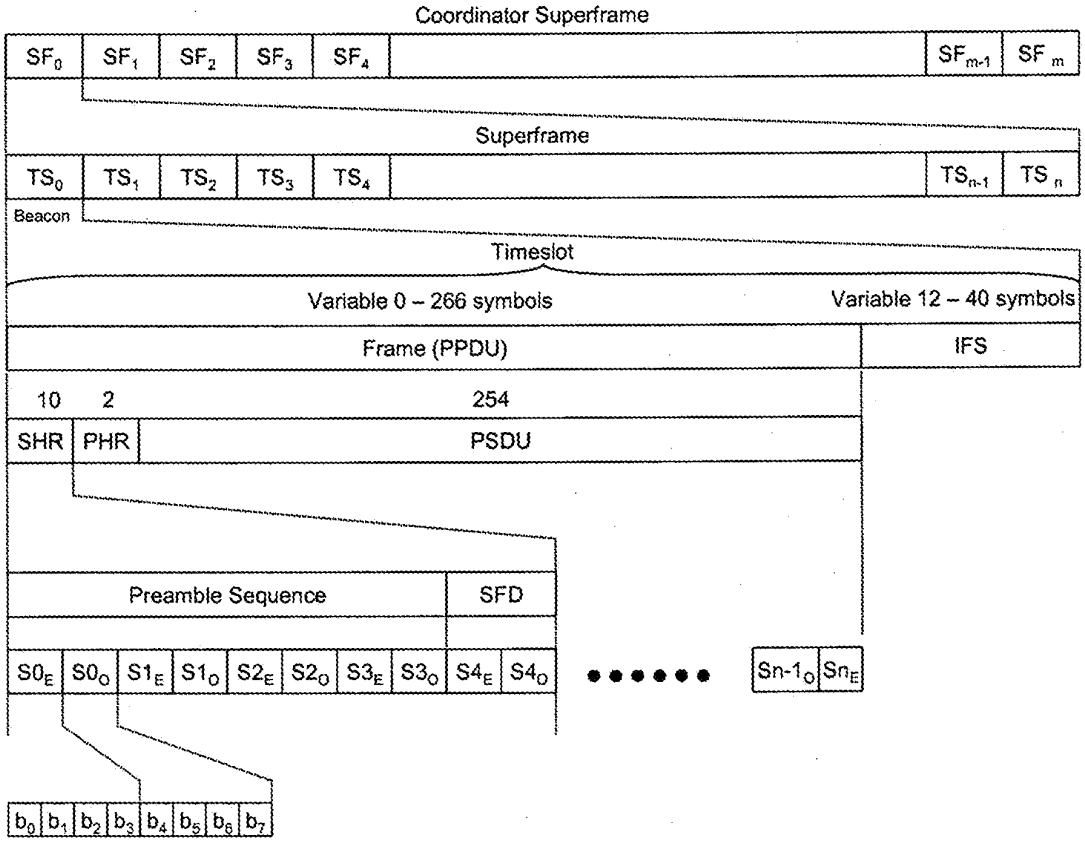

Coordinator Superframe
SF0
SF1
SF2
SF3
SF4
SFm-1
SF m
Superframe
TS0
TS1
TS2
TS3
TS4
TSn-1
TS n
Beacon
Timeslot
Variable 0 – 266 symbols
Variable 12 – 40 symbols
Frame (PPDU)
IFS
10
2
254
SHR
PHR
PSDU
Preamble Sequence
SFD
S0E
S0O
S1E
S1O
S2E
S2O
S3E
S3O
S4E
S4O
Sn-1O
SnE
b0
b1
b2
b3
b4
b5
b6
b7

FIGURE 13

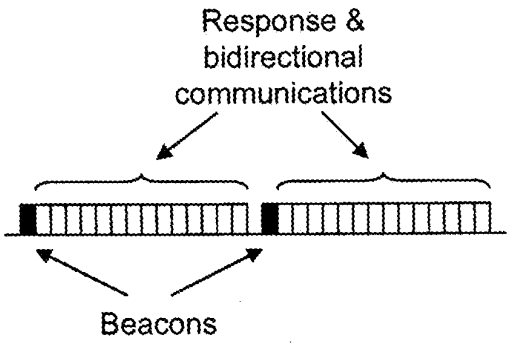


FIGURE 14

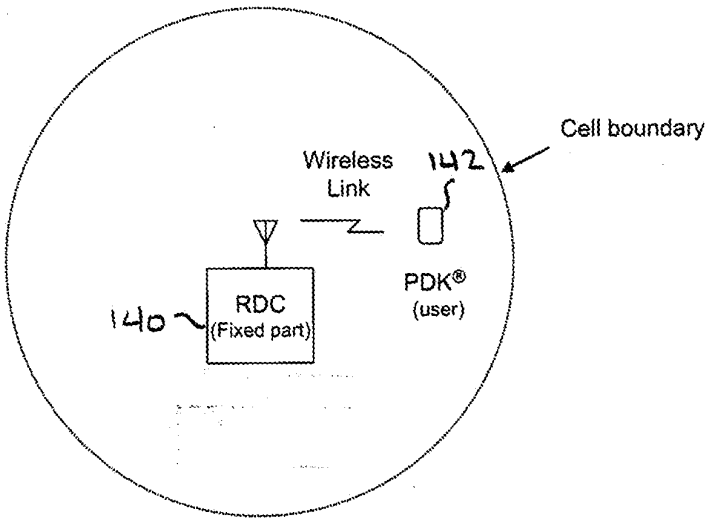


FIGURE 15

INTEL-1008
U.S. Patent 8,457,672

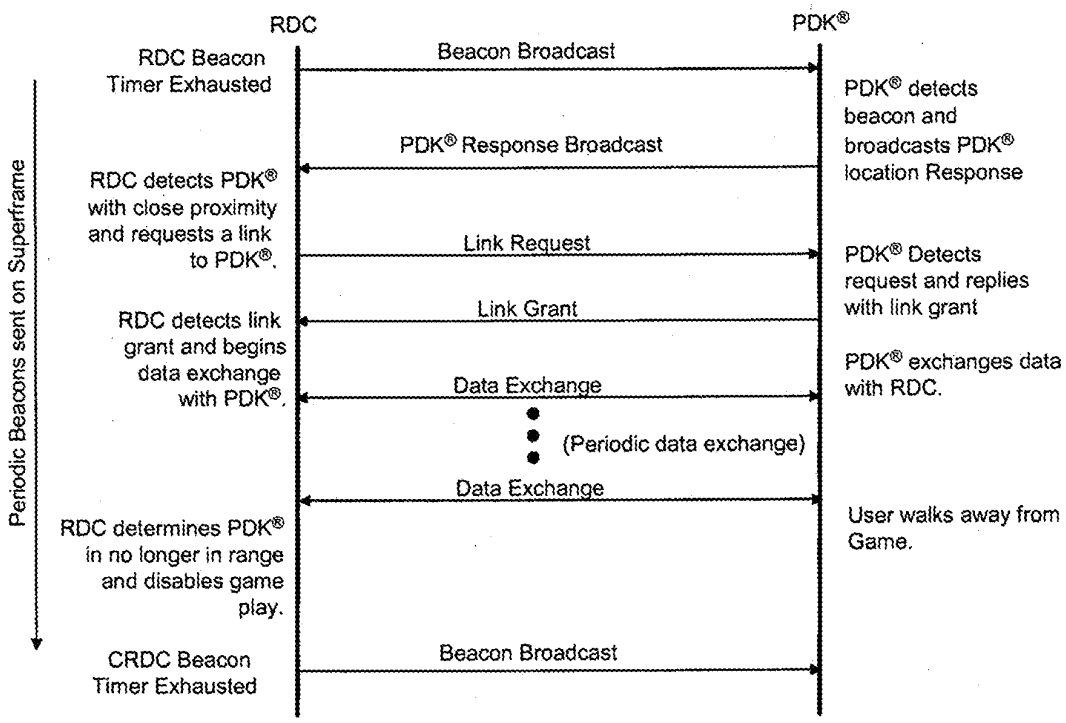

RDC
PDK®
Periodic Beacons sent on Superframe
RDC Beacon Timer Exhausted
Beacon Broadcast
PDK® detects beacon and broadcasts PDK® location Response
PDK® Response Broadcast
RDC detects PDK® with close proximity and requests a link to PDK®.
Link Request
PDK® Detects request and replies with link grant
Link Grant
RDC detects link grant and begins data exchange with PDK®.
Data Exchange
PDK® exchanges data with RDC.
(Periodic data exchange)
Data Exchange
User walks away from Game.
RDC determines PDK® in no longer in range and disables game play.
CRDC Beacon Timer Exhausted
Beacon Broadcast

FIGURE 16

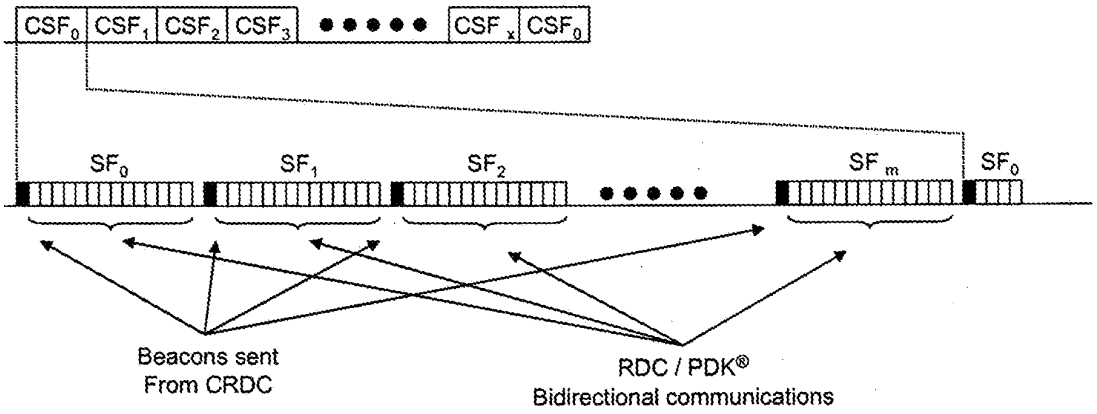


FIGURE 17

INTEL-1008
U.S. Patent 8,457,672

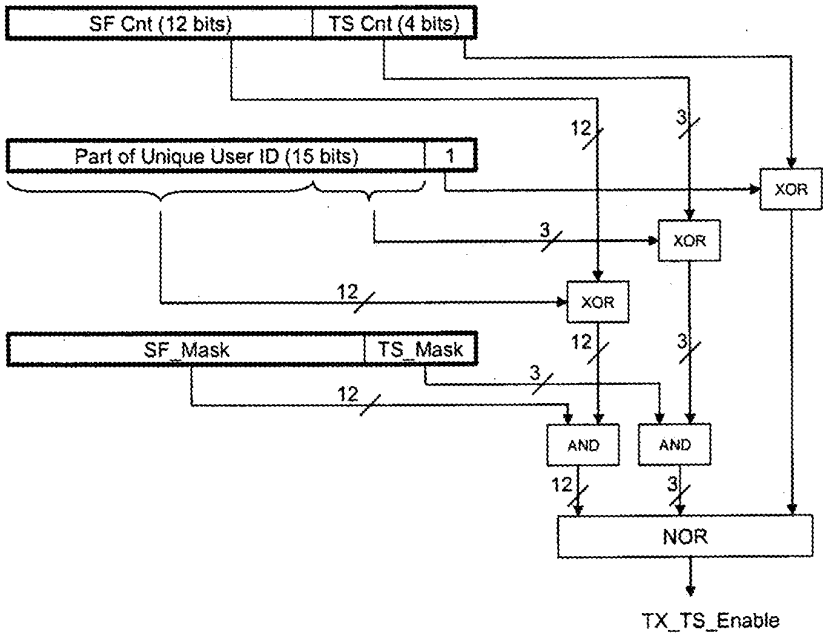

SF Cnt (12 bits)
TS Cnt (4 bits)
Part of Unique User ID (15 bits)
1
SF_Mask
TS_Mask
XOR
XOR
XOR
AND
AND
NOR
12
3
12
3
12
3
3
12
12
3
TX_TS_Enable

FIGURE 18

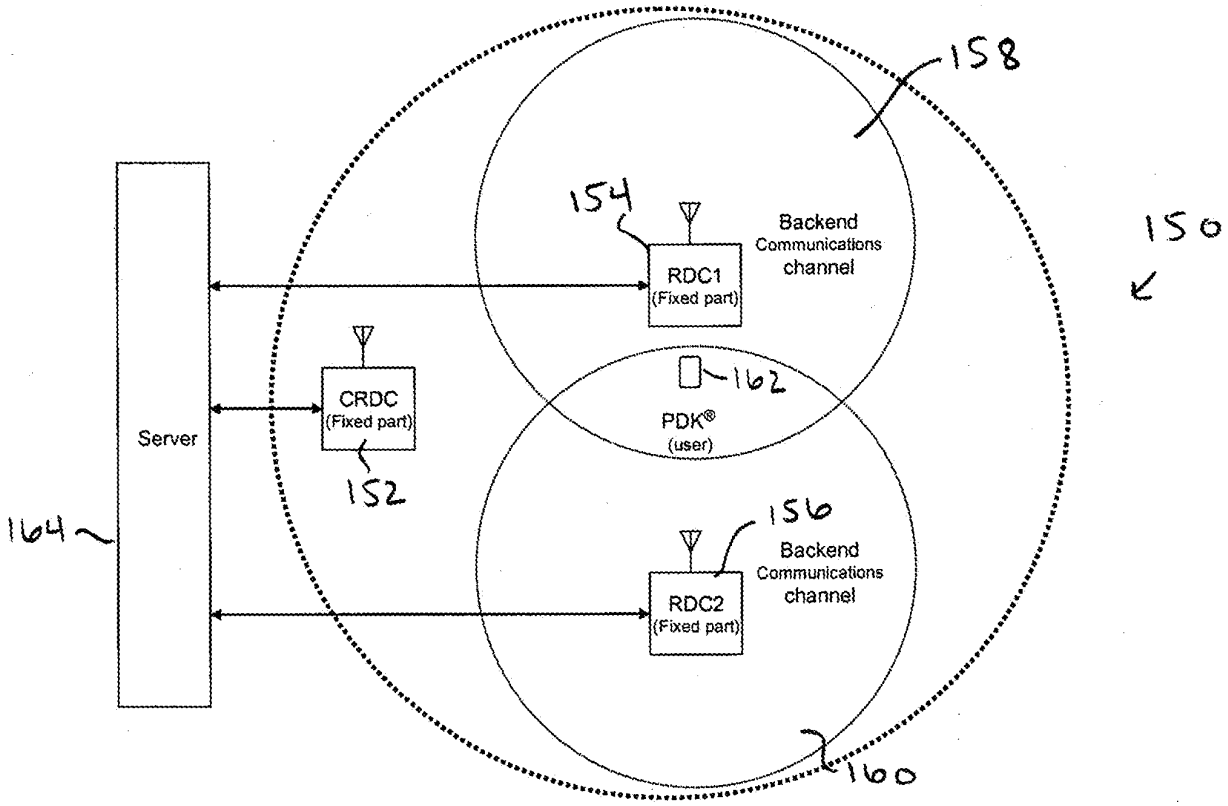


FIGURE 19

INTEL-1008
U.S. Patent 8,457,672

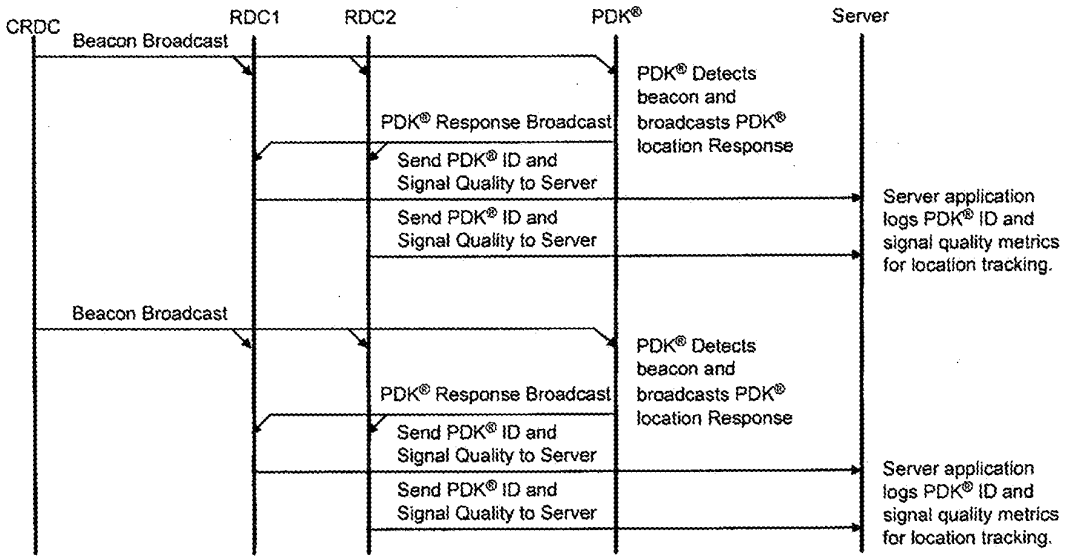

CRDC
RDC1
RDC2
PDK®
Server
Beacon Broadcast
PDK® Detects beacon and broadcasts PDK® location Response
PDK® Response Broadcast
Send PDK® ID and Signal Quality to Server
Server application logs PDK® ID and signal quality metrics for location tracking.
Send PDK® ID and Signal Quality to Server
Beacon Broadcast
PDK® Detects beacon and broadcasts PDK® location Response
PDK® Response Broadcast
Send PDK® ID and Signal Quality to Server
Server application logs PDK® ID and signal quality metrics for location tracking.
Send PDK® ID and Signal Quality to Server

FIGURE 20

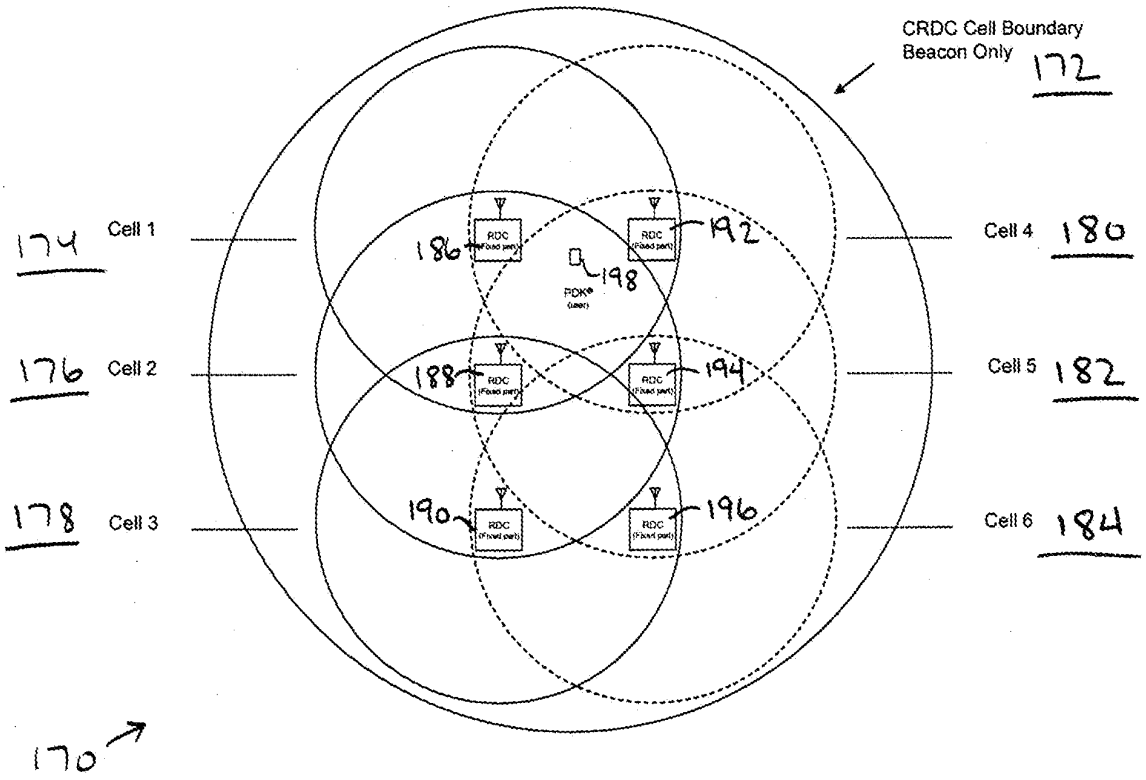

CRDC Cell Boundary
Beacon Only
172
174
Cell 1
176
Cell 2
178
Cell 3
Cell 4
180
Cell 5
182
Cell 6
184
186
192
198
188
194
190
196
RDC
170

FIGURE 21

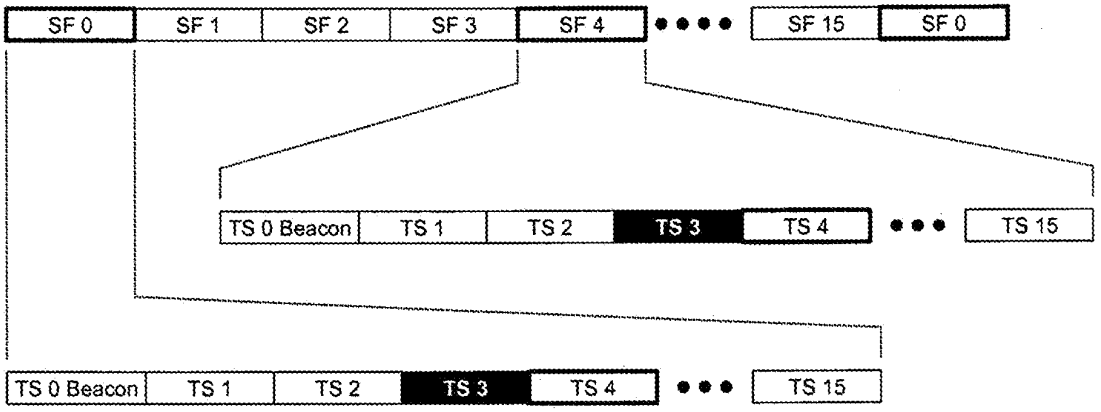

SF 0
SF 1
SF 2
SF 3
SF 4
SF 15
SF 0
TS 0 Beacon
TS 1
TS 2
TS 3
TS 4
TS 15
TS 0 Beacon
TS 1
TS 2
TS 3
TS 4
TS 15

FIGURE 22

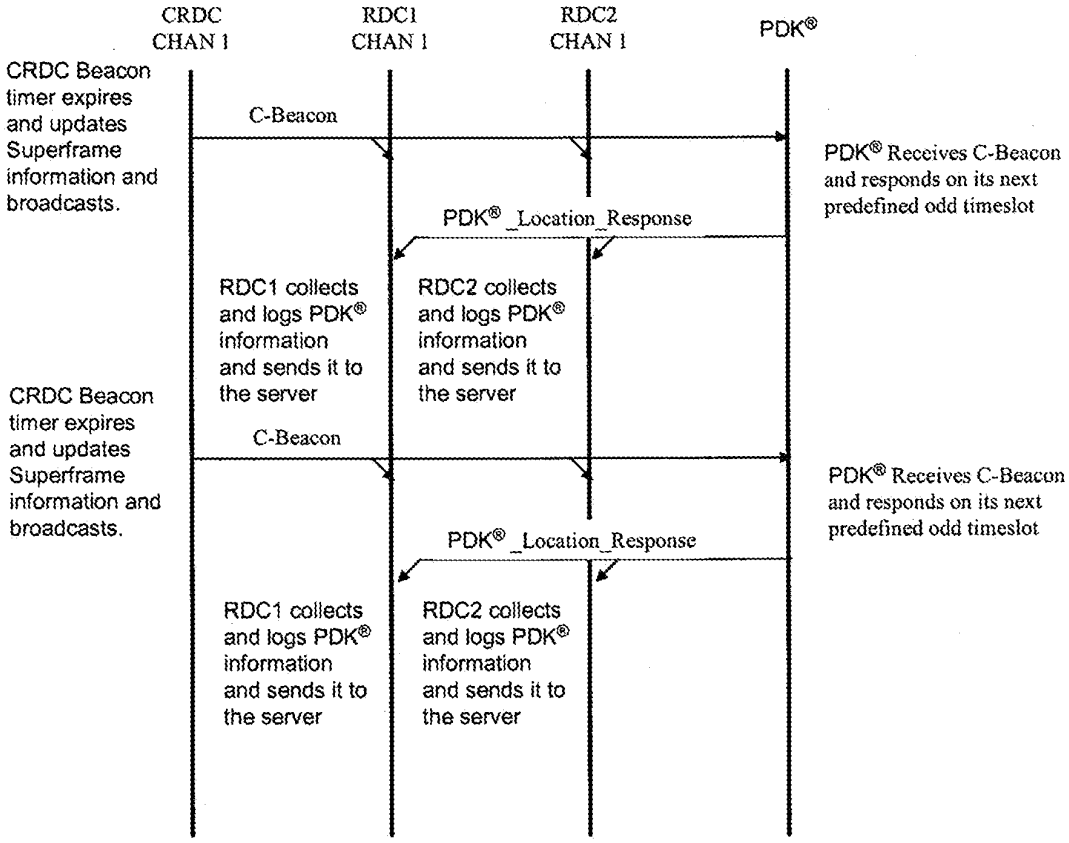


FIGURE 23

INTEL-1008
U.S. Patent 8,457,672

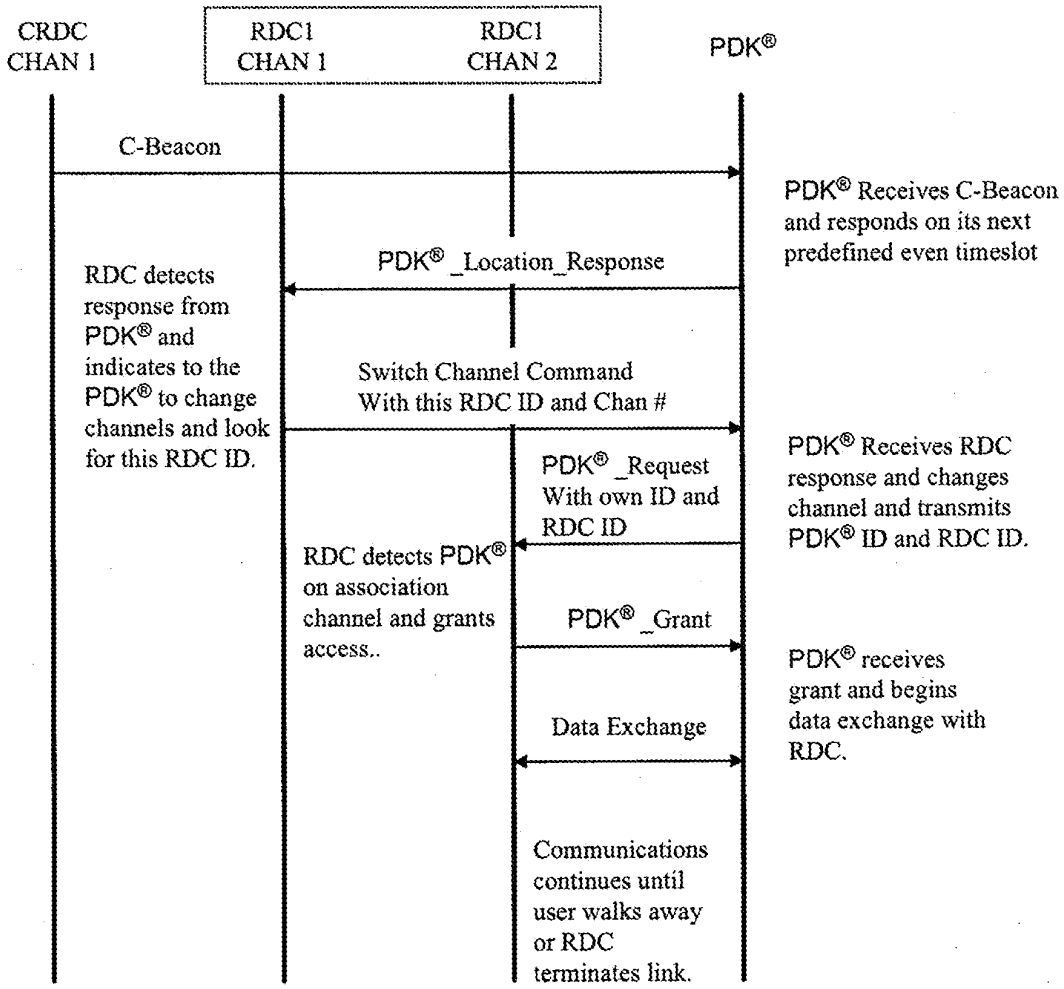


FIGURE 24

INTEL-1008
U.S. Patent 8,457,672

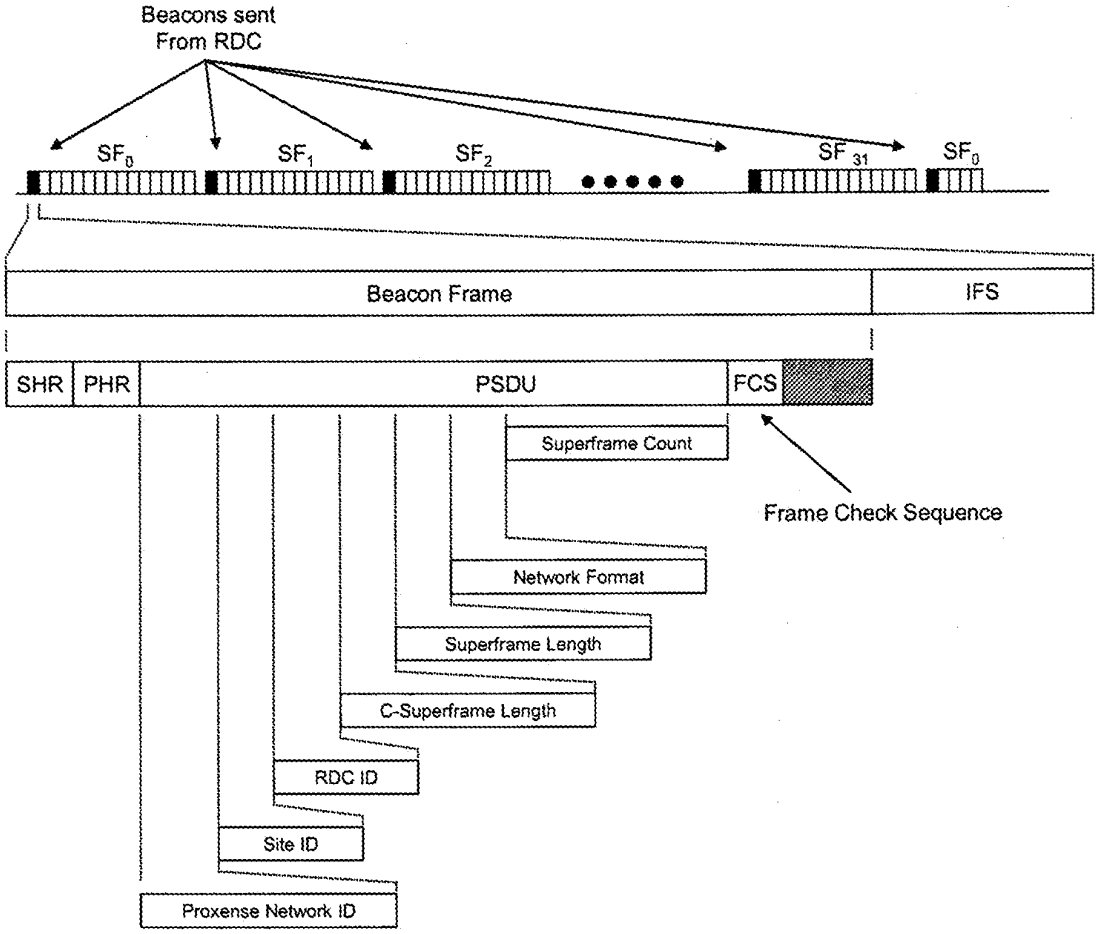

Beacons sent
From RDC
SF0
SF1
SF2
SF 31
SF0
Beacon Frame
IFS
SHR
PHR
PSDU
FCS
Superframe Count
Frame Check Sequence
Network Format
Superframe Length
C-Superframe Length
RDC ID
Site ID
Proxense Network ID

FIGURE 25

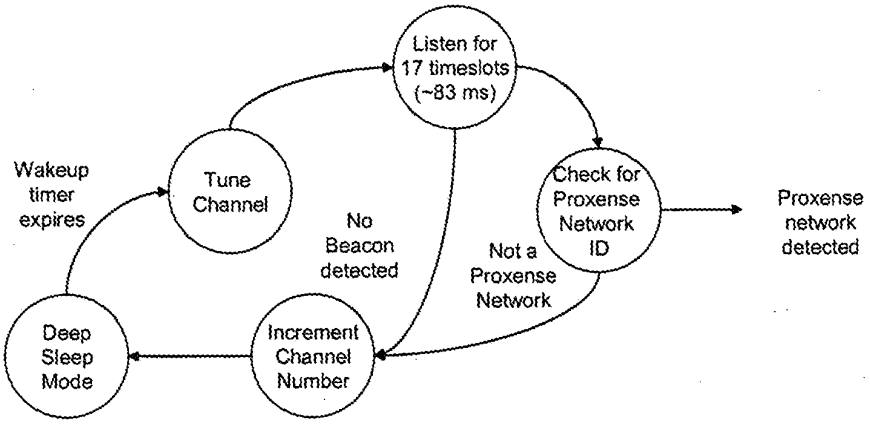

Listen for 17 timeslots (~83 ms)
Wakeup timer expires
Tune Channel
No Beacon detected
Check for Proxense Network ID
Proxense network detected
Not a Proxense Network
Deep Sleep Mode
Increment Channel Number

FIGURE 26

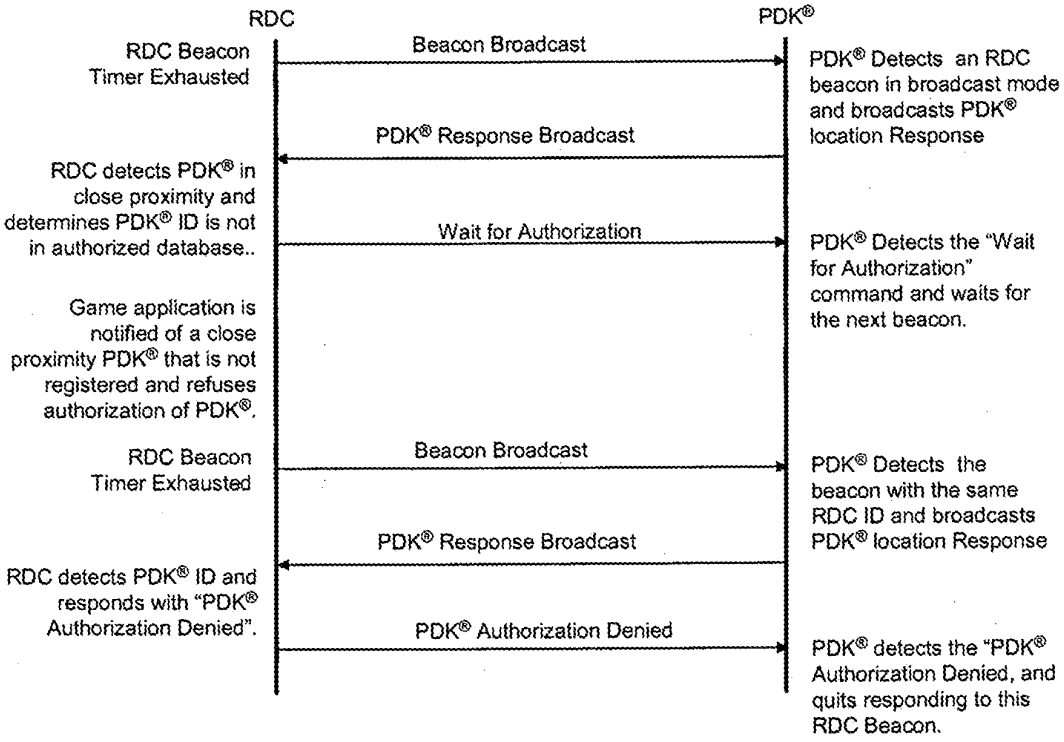


FIGURE 27

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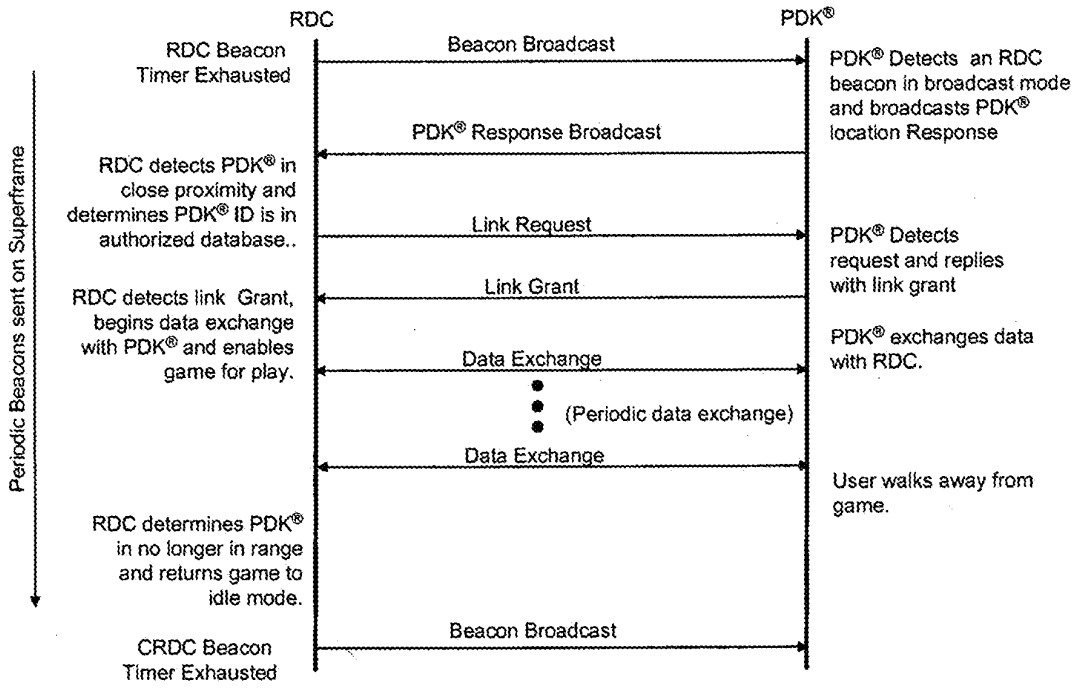


FIGURE 28

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U.S. Patent 8,457,672

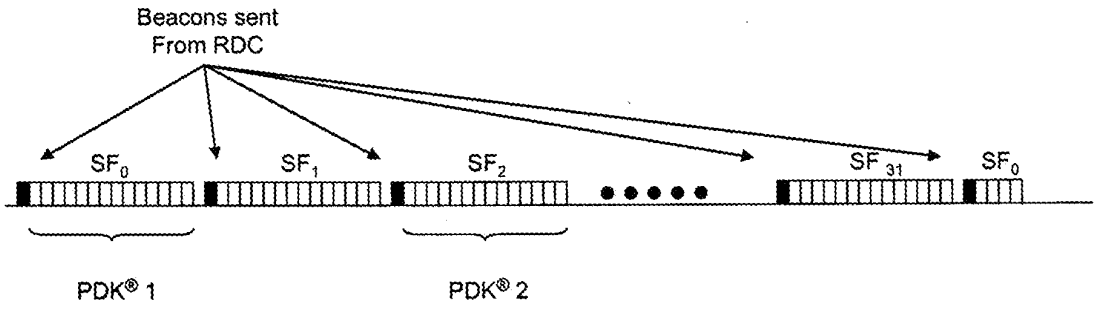


FIGURE 29

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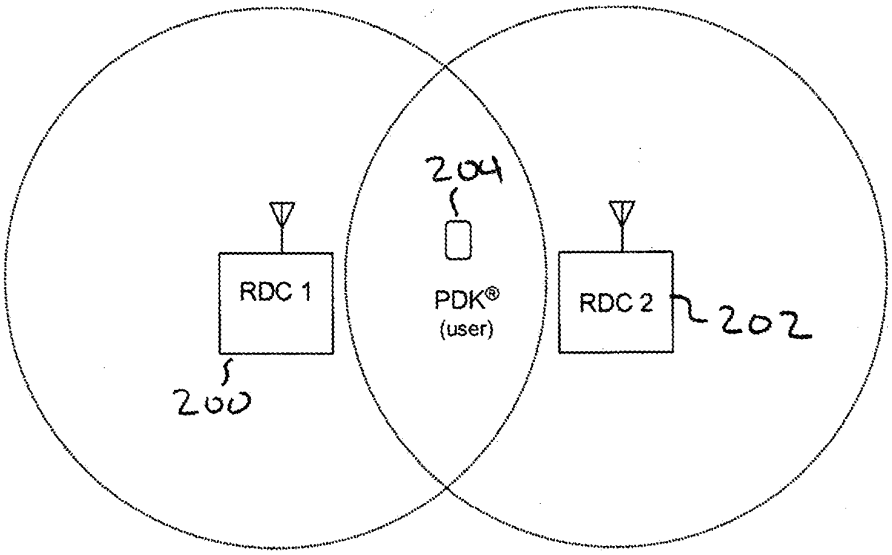


FIGURE 30

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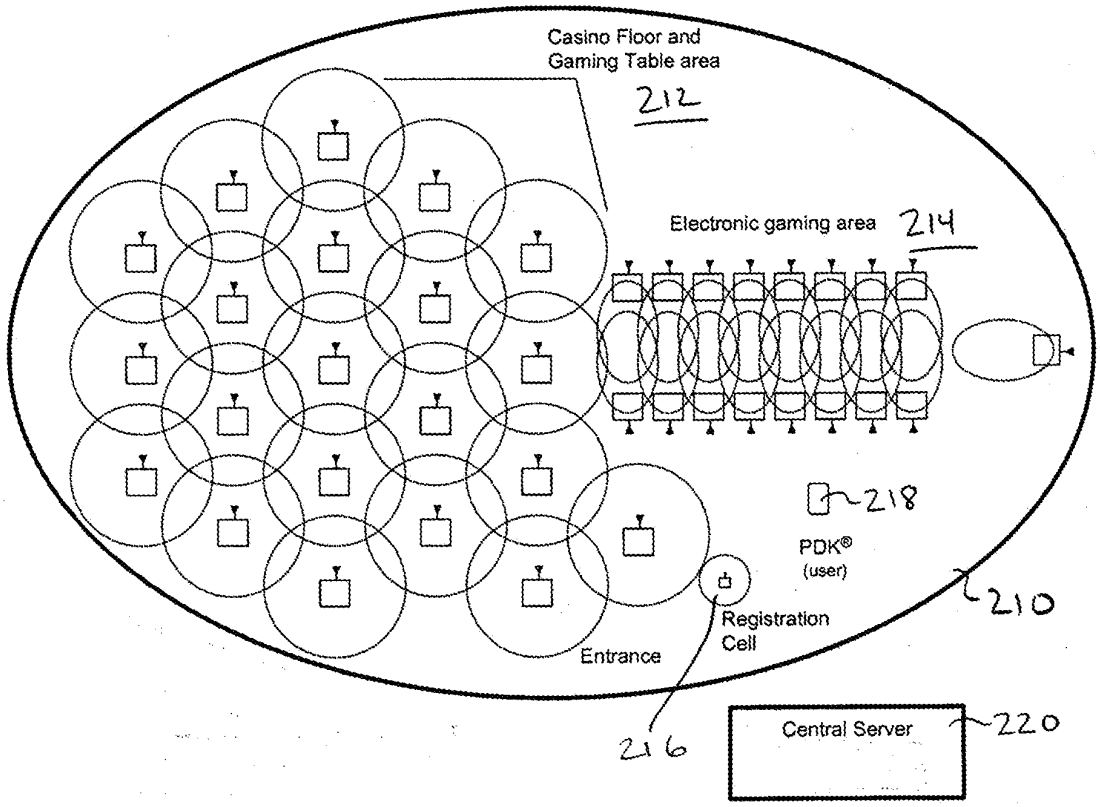


FIGURE 31

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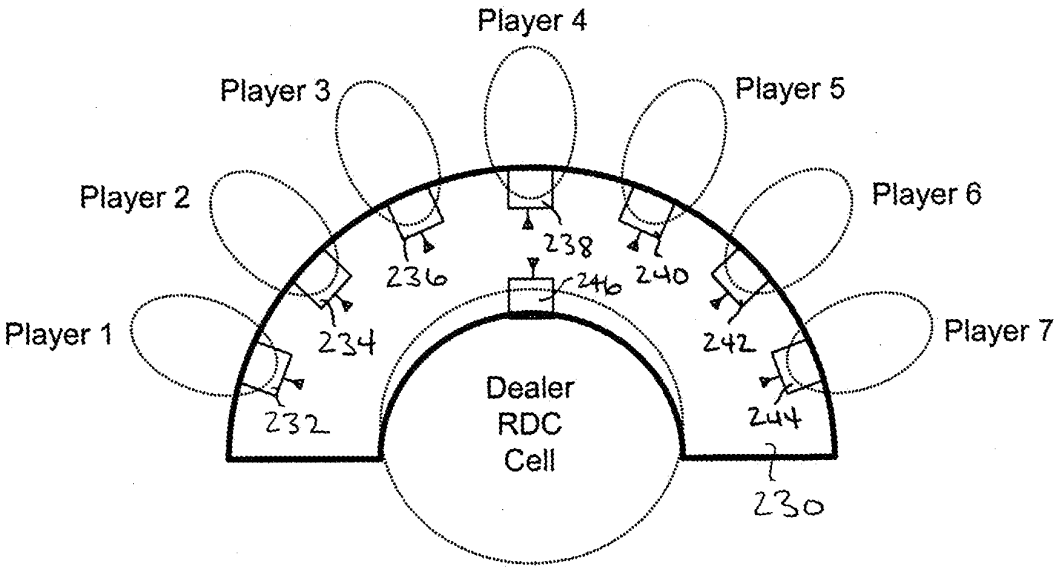

Player 4
Player 3
Player 5
Player 2
Player 6
Player 1
Player 7
238
236
240
246
234
242
232
244
Dealer
RDC
Cell
230

FIGURE 32

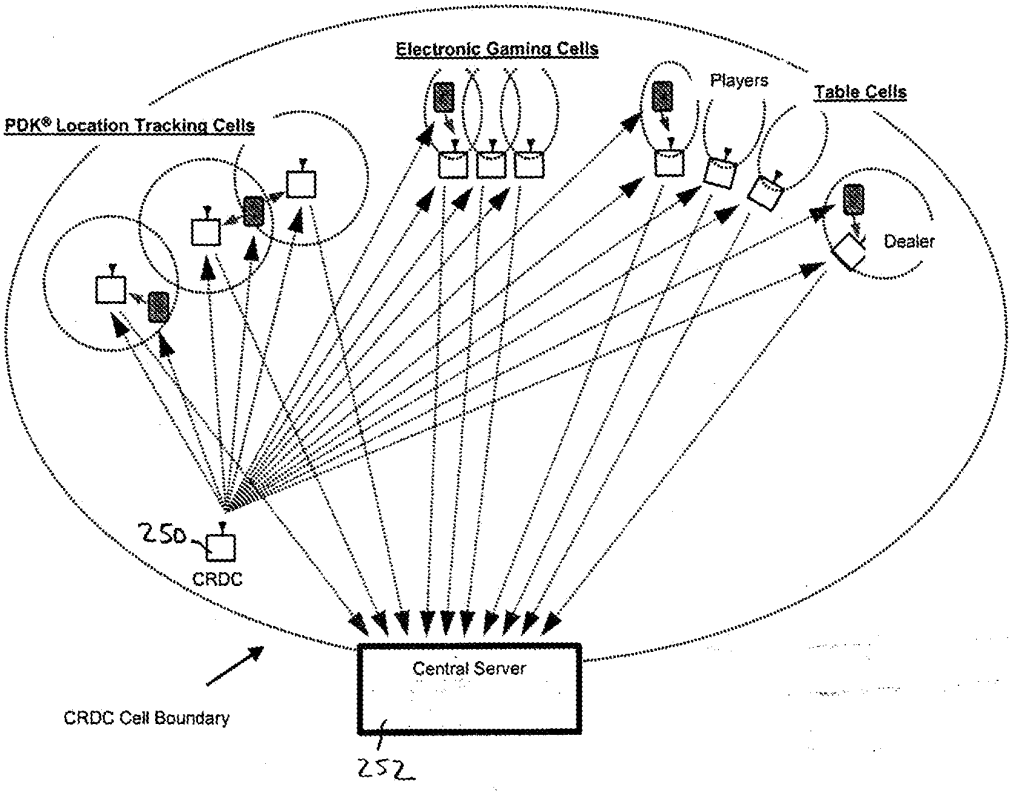


FIGURE 33

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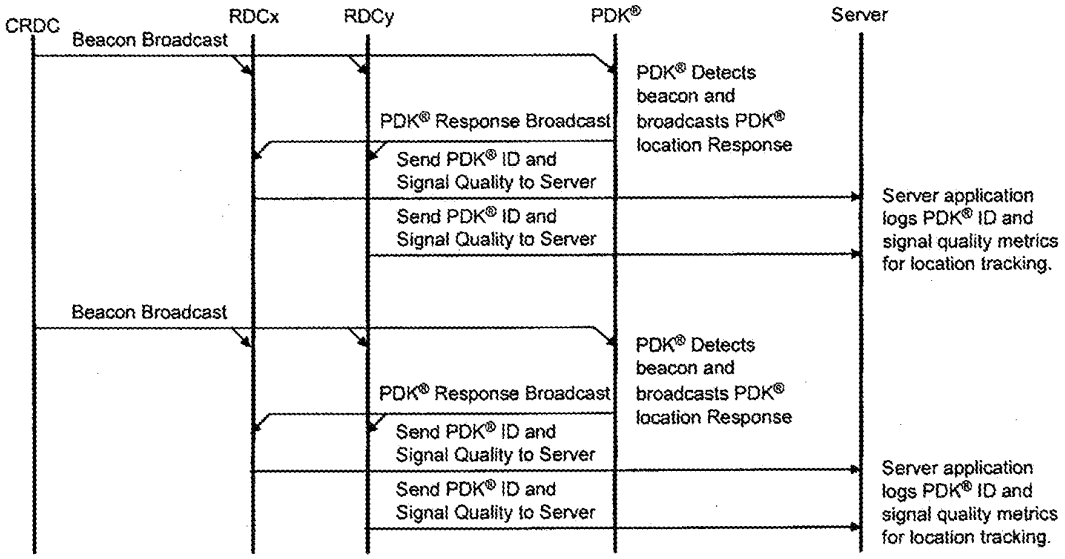


FIGURE 34

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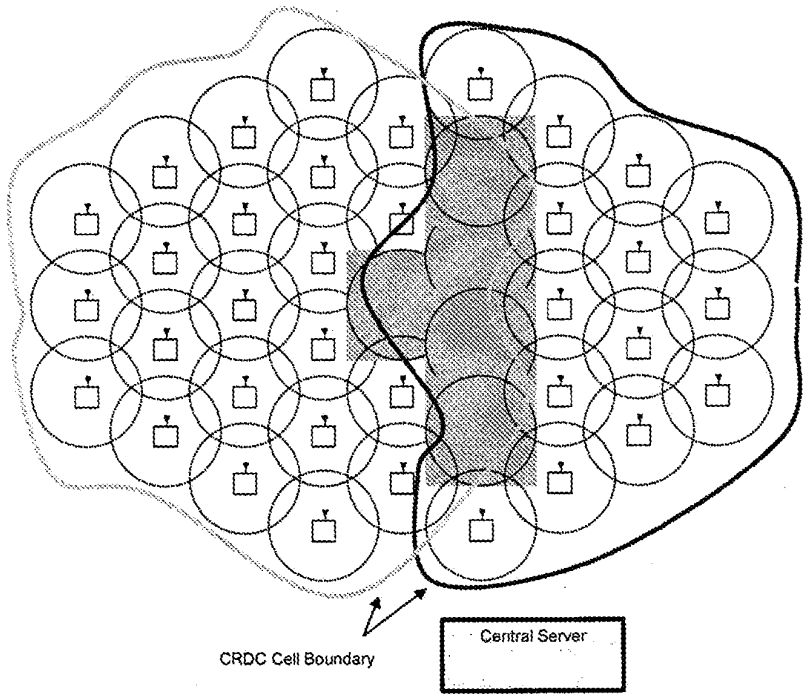


FIGURE 35

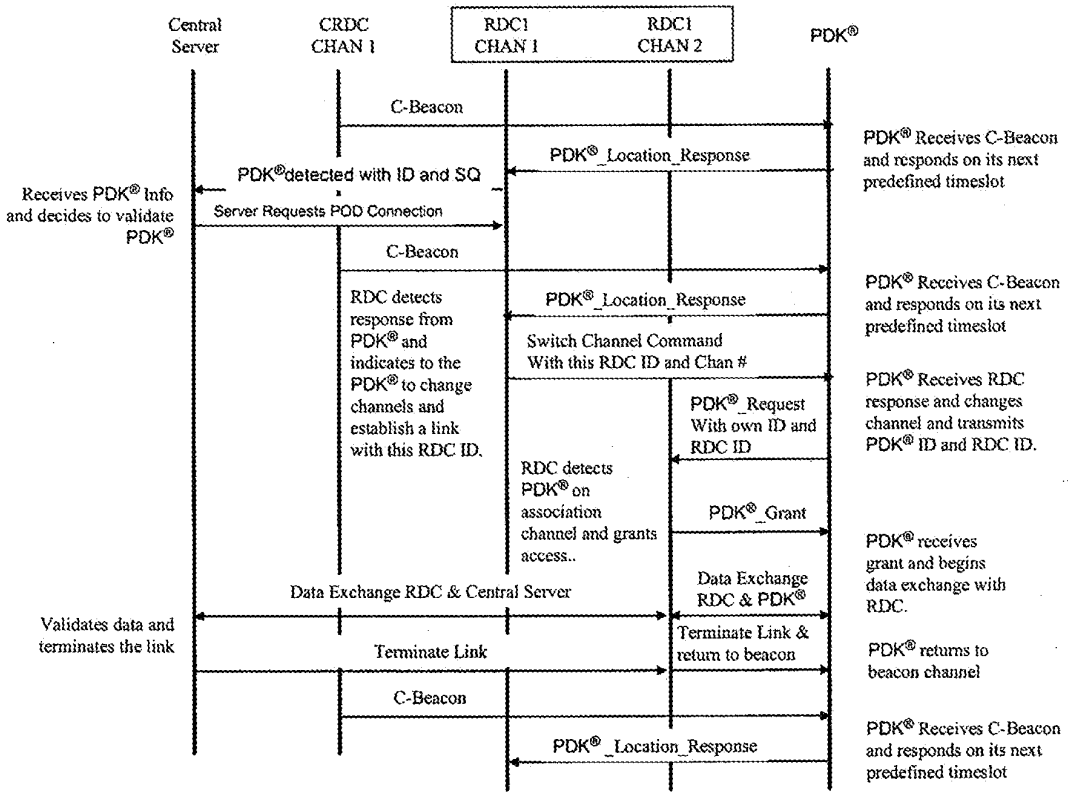


FIGURE 36

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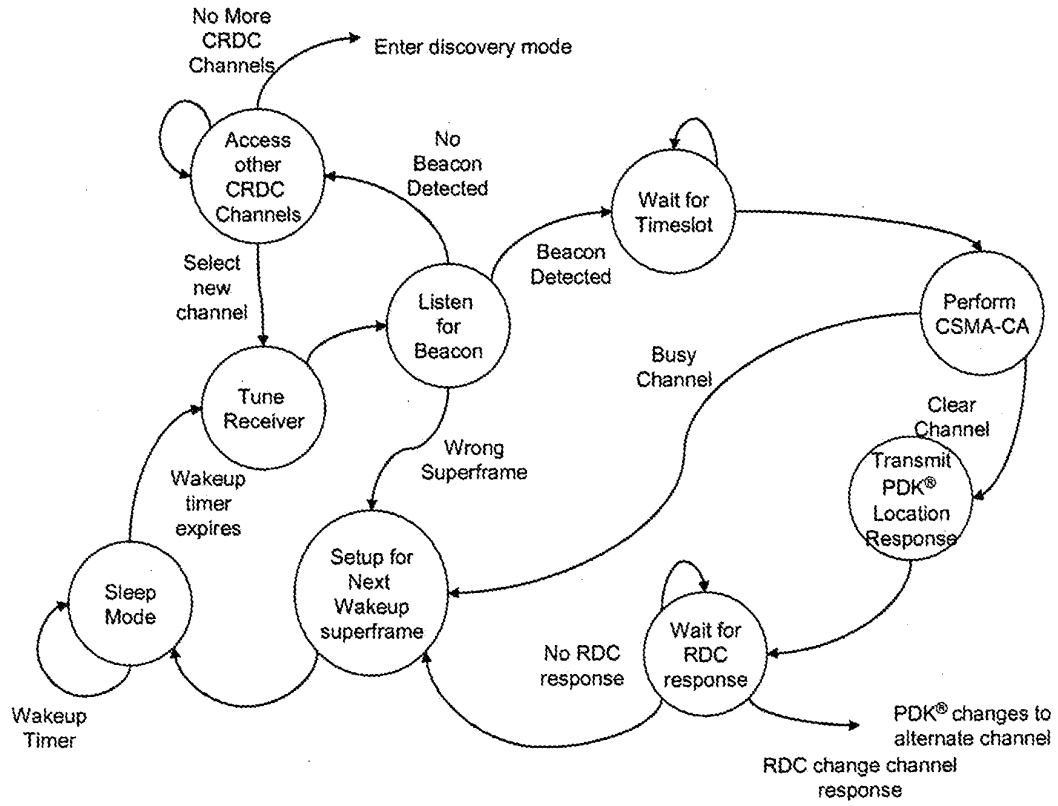


FIGURE 37

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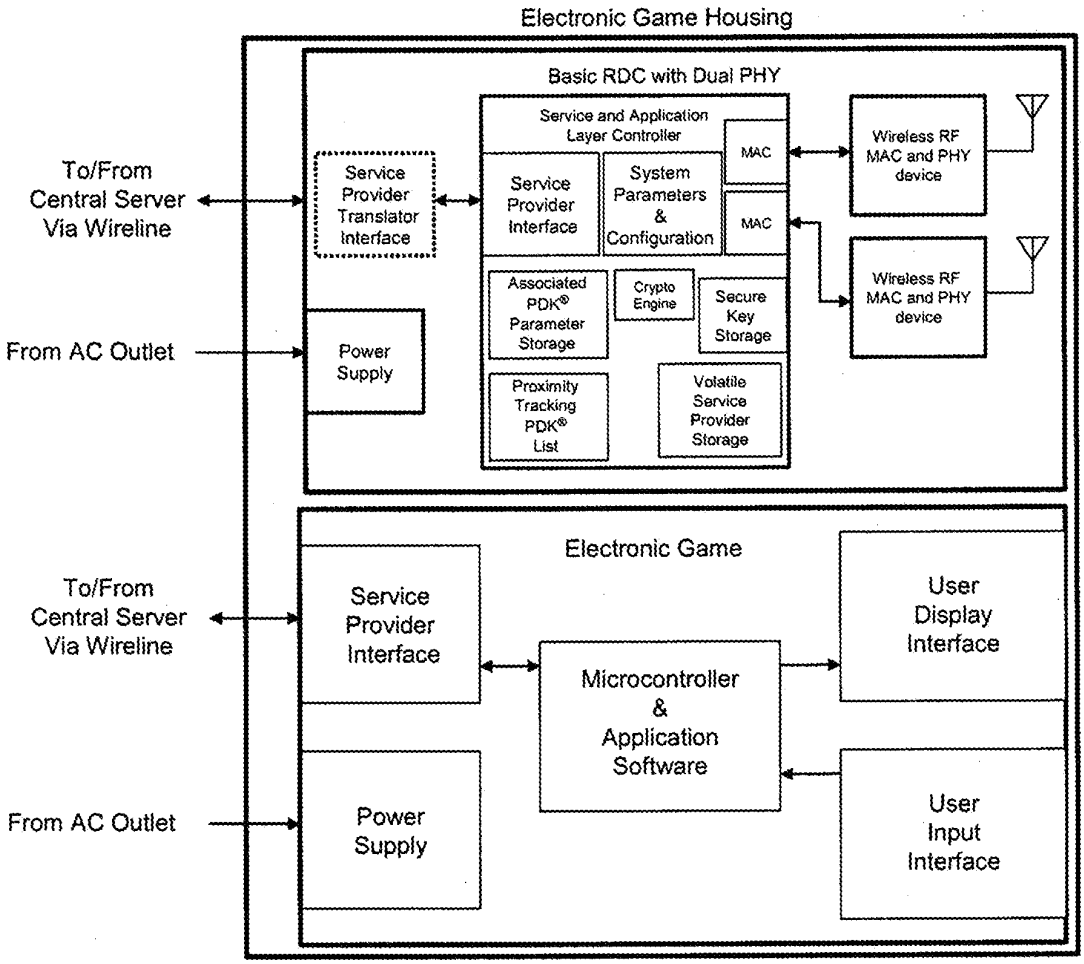


FIGURE 38

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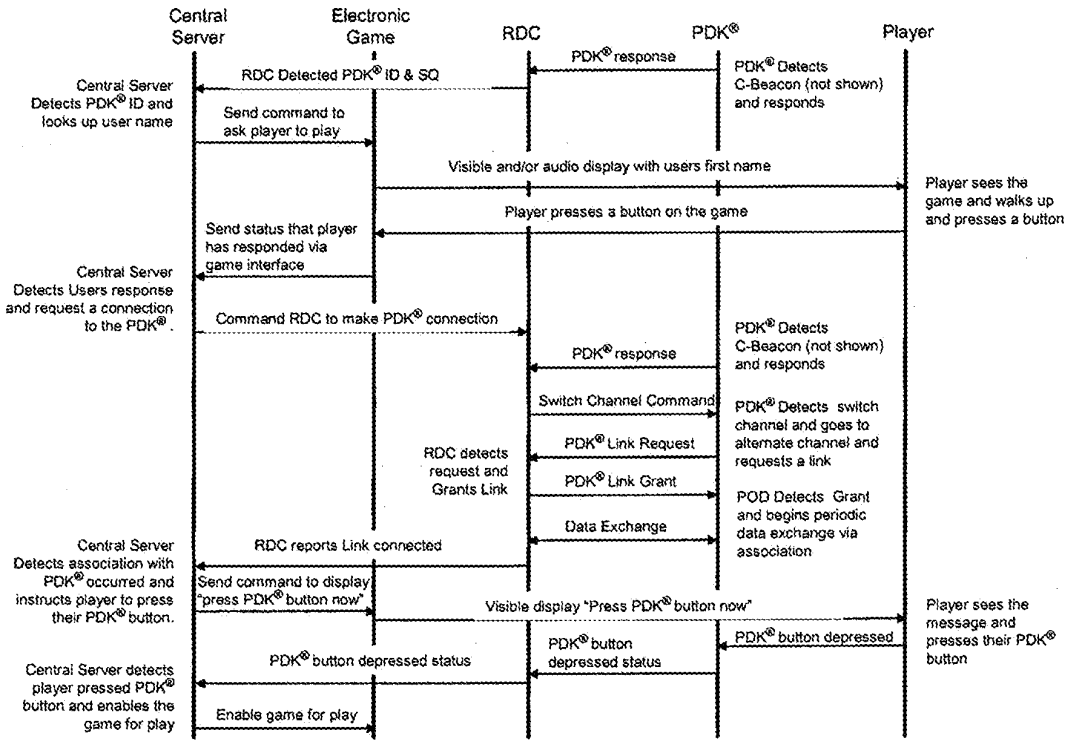

Central Server
Electronic Game
RDC
PDK®
Player
PDK® response
PDK® Detects C-Beacon (not shown) and responds
RDC Detected PDK® ID & SQ
Central Server Detects PDK® ID and looks up user name
Send command to ask player to play
Visible and/or audio display with users first name
Player sees the game and walks up and presses a button
Player presses a button on the game
Send status that player has responded via game interface
Central Server Detects Users response and request a connection to the PDK®.
Command RDC to make PDK® connection
PDK® response
PDK® Detects C-Beacon (not shown) and responds
Switch Channel Command
PDK® Detects switch channel and goes to alternate channel and requests a link
PDK® Link Request
RDC detects request and Grants Link
PDK® Link Grant
POD Detects Grant and begins periodic data exchange via association
Data Exchange
Central Server Detects association with PDK® occurred and instructs player to press their PDK® button.
RDC reports Link connected
Send command to display "press PDK® button now"
Visible display "Press PDK® button now"
Player sees the message and presses their PDK® button
PDK® button depressed
PDK® button depressed status
Central Server detects player pressed PDK® button and enables the game for play
PDK® button depressed status
Enable game for play

FIGURE 39

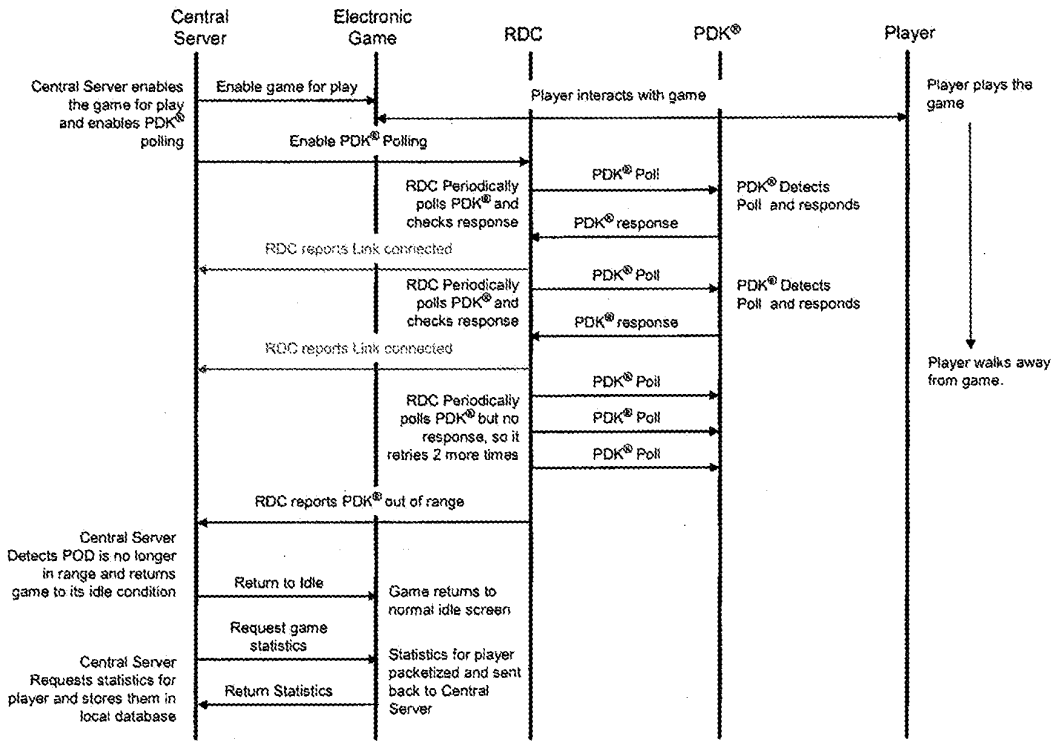


FIGURE 40

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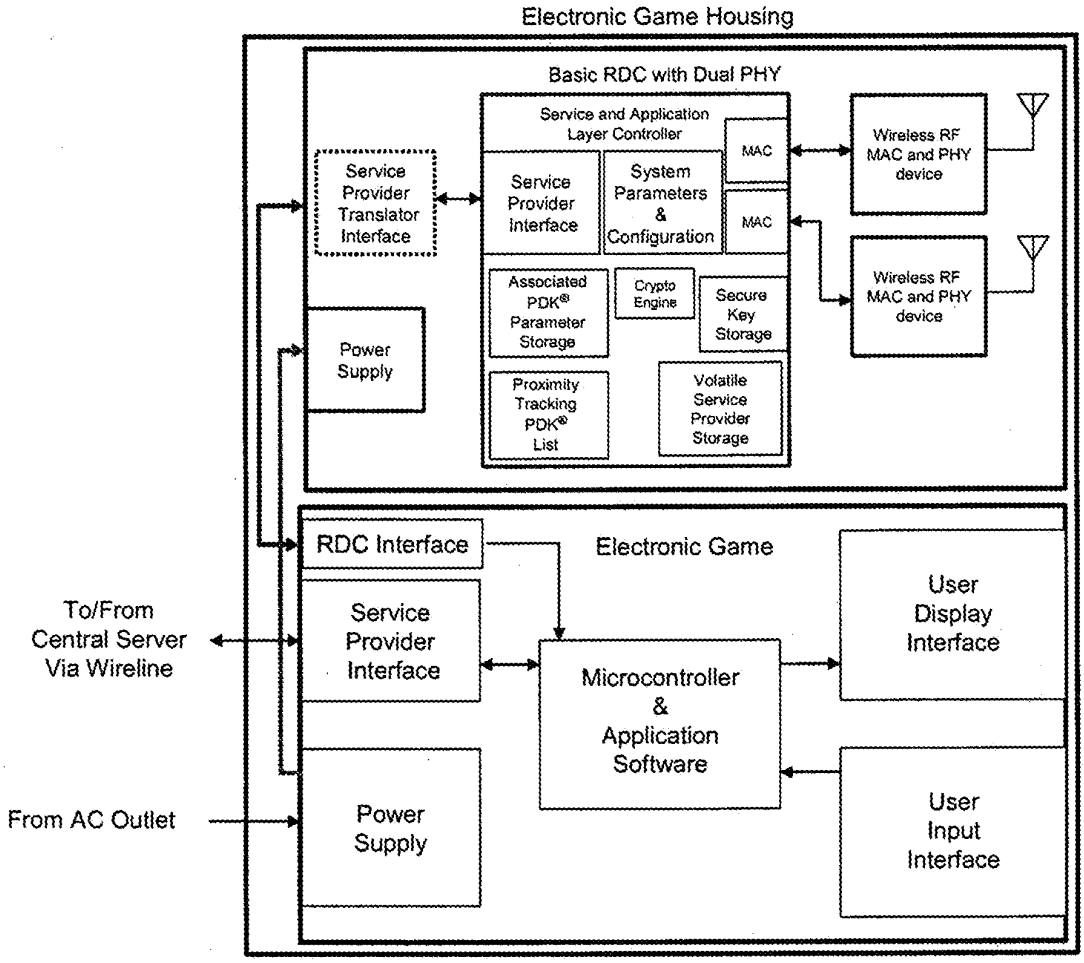


FIGURE 41

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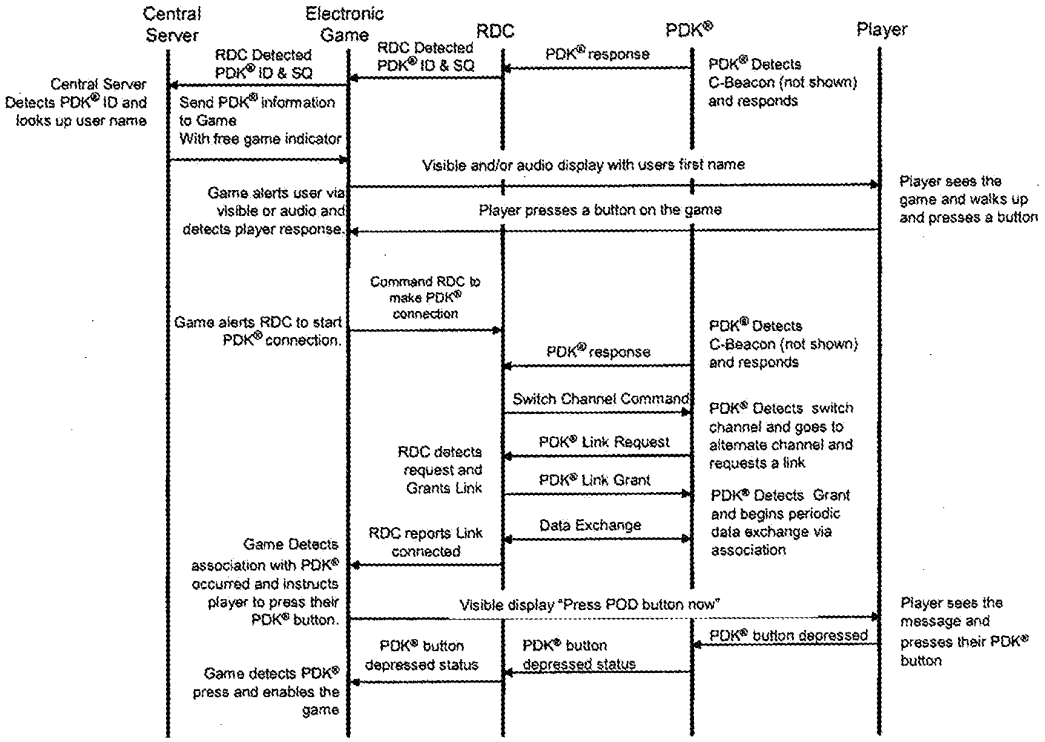

Central Server
Electronic Game
RDC
PDK®
Player
RDC Detected PDK® ID & SQ
RDC Detected PDK® ID & SQ
PDK® response
PDK® Detects C-Beacon (not shown) and responds
Central Server Detects PDK® ID and looks up user name
Send PDK® information to Game With free game indicator
Visible and/or audio display with users first name
Player sees the game and walks up and presses a button
Game alerts user via visible or audio and detects player response.
Player presses a button on the game
Command RDC to make PDK® connection
Game alerts RDC to start PDK® connection.
PDK® response
PDK® Detects C-Beacon (not shown) and responds
Switch Channel Command
PDK® Detects switch channel and goes to alternate channel and requests a link
PDK® Link Request
RDC detects request and Grants Link
PDK® Link Grant
PDK® Detects Grant and begins periodic data exchange via association
Data Exchange
RDC reports Link connected
Game Detects association with PDK® occurred and instructs player to press their PDK® button.
Visible display "Press POD button now"
Player sees the message and presses their PDK® button
PDK® button depressed
PDK® button depressed status
PDK® button depressed status
Game detects PDK® press and enables the game

FIGURE 42

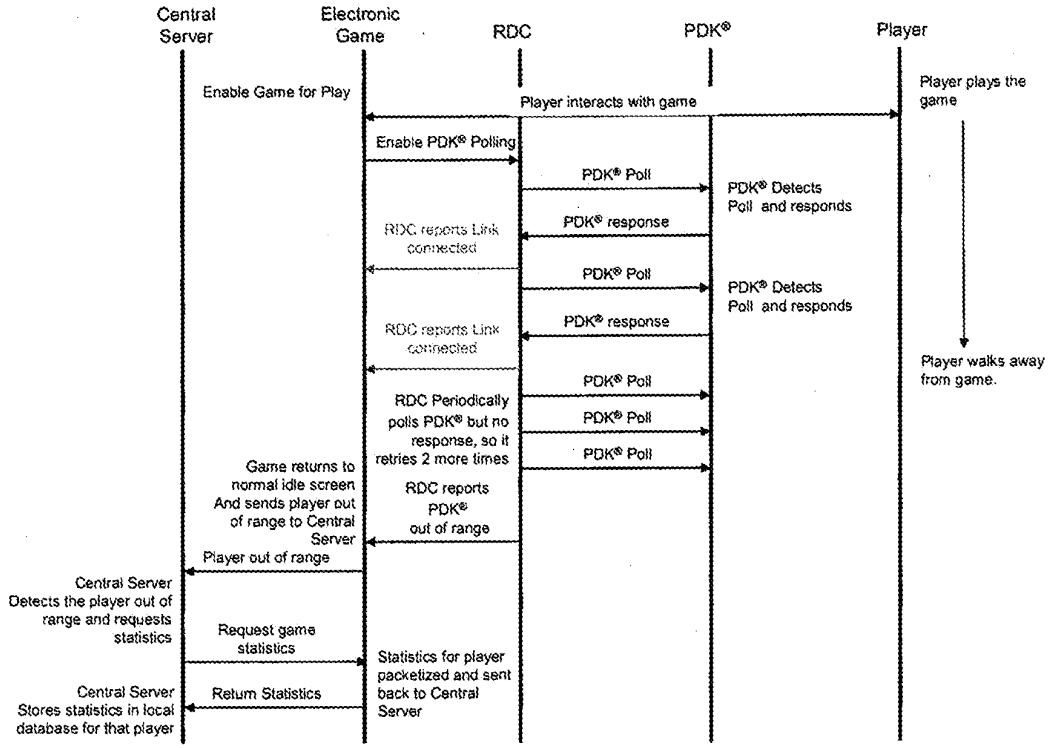


FIGURE 43

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DYNAMIC REAL-TIME TIERED CLIENT ACCESS

INVENTORS: DAVID L. BROWN AND FRED S. HIRT

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims priority, under 35 U.S.C. § 119, of U.S. Provisional Patent Application No. 60/760,362, filed January 6, 2006 and entitled "Securing Transactions Between an Electric Key and Lock Within Proximity of Each Other," the entirety of which is hereby incorporated by reference.

BACKGROUND

[0002] Optimizing sales transactions, providing secure access to physical and digital assets, uniquely identifying individuals, and generally improving communications and data exchange are challenges faced by many businesses and organizations. Ensuring that these processes are safe, efficient, reliable, and simple is important to companies, merchants, service providers, users, and consumers. Well-known technologies such as user-specific magnetic cards (e.g., credit and debit cards, employee badges), and more recent developments such as contactless cards designed to allow access or authorization when placed near a compatible reader, are examples of attempts to address the need to instill efficiency and integrity in, for example, the general classes of transactions described above.

SUMMARY

[0003] According to at least one aspect of one or more embodiments of the present invention, a method of facilitating data exchange includes: assigning a first specific time

slot for a first client device to wirelessly communicate with a fixed proximity-based reader device; and assigning a second specific time slot for a second client device to wirelessly communicate with the fixed proximity-based reader device.

[0004] According to at least one other aspect of one or more embodiments of the present invention, an apparatus includes: a physical, portable key device adapted to wirelessly communicate data with a fixed reader device when located in a wireless coverage area of the fixed reader device, where the key device is arranged to communicate with the fixed reader device during a time slot determined based on a bit field stored in the key device.

[0005] According to at least one other aspect of one or more embodiments of the present invention, a system includes: a fixed reader device operatively connected to a network device and having a first wireless coverage range within a second wireless coverage range; and a portable client device arranged to wirelessly communicate data with the fixed reader device when the client device is within the first wireless coverage range, where a time slot during which the client device communicates data with the fixed reader device is determined based on synchronization information received by the client device.

[0006] According to at least one other aspect of one or more embodiments of the present invention, a system includes: a network device arranged to wirelessly broadcast synchronization information in a first wireless coverage range; and a portable client device adapted to wirelessly communicate data with a reader device when the client device is located in communication proximity of the reader device, where the client

device is arranged to receive data from the network device during a time slot determined based on the synchronization information.

[0007] According to at least one other aspect of one or more embodiments of the present invention, a system includes: a network device configured to wirelessly broadcast synchronization information; and a portable client device configured to wirelessly receive the synchronization information, where the received synchronization information includes information assigning a time slot during which the client device can receive data from the network device.

[0008] According to at least one other aspect of one or more embodiments of the present invention, a method of facilitating data exchange includes: wirelessly broadcasting synchronization information to a portable client device, where the synchronization information includes information assigning a time slot during which the client device can receive data; and wirelessly broadcasting data for reception by the client device during the time slot.

[0009] The features and advantages described herein are not all inclusive, and, in particular, many additional features and advantages will be apparent to those skilled in the art in view of the following description. Moreover, it should be noted that the language used herein has been principally selected for readability and instructional purposes and may not have been selected to circumscribe the present invention.

BRIEF DESCRIPTION OF DRAWINGS

[0010] Figure 1 shows a single wireless cell in which a reader decoder circuit

(RDC) and a personal digital key (PDK) are present.

[0011] Figure 2 shows partially overlapping RDC cells.

[0012] Figure 3 shows synchronized partially overlapping RDC cells.

[0013] Figure 4 shows a synchronized multi-cell system in accordance with one or more embodiments of the present invention.

[0014] Figure 5 shows a PDK in accordance with one or more embodiments of the present invention.

[0015] Figure 6 shows a portion of the PDK shown in Figure 5.

[0016] Figure 7 shows a portion of the PDK shown in Figure 5.

[0017] Figure 8 shows an RDC in accordance with one or more embodiments of the present invention.

[0018] Figure 9 shows an RDC in accordance with one or more embodiments of the present invention.

[0019] Figure 10 shows an arrangement of a timeslot in accordance with one or more embodiments of the present invention.

[0020] Figure 11 shows a superframe in accordance with one or more embodiments of the present invention.

[0021] Figure 12 shows a coordinator superframe in accordance with one or more embodiments of the present invention.

[0022] Figure 13 shows an overall framing structure in accordance with one or

more embodiments of the present invention.

[0023] Figure 14 shows an RDC beacon for use in a single cell system in accordance with one or more embodiments of the present invention.

[0024] Figure 15 shows a single cell system in accordance with one or more embodiments of the present invention.

[0025] Figure 16 shows a PDK-RDC handshake in accordance with one or more embodiments of the present invention.

[0026] Figure 17 shows a coordinator beacon configuration in accordance with one or more embodiments of the present invention.

[0027] Figure 18 shows a PDK transmit timeslot enable operation in accordance with one or more embodiments of the present invention.

[0028] Figure 19 shows a location tracking system configuration in accordance with one or more embodiments of the present invention.

[0029] Figure 20 shows a coordinator RDC (CRDC) location tracking handshake in accordance with one or more embodiments of the present invention.

[0030] Figure 21 shows a configuration in which RDCs and PDKs are coordinated within a CRDC cell in accordance with one or more embodiments of the present invention.

[0031] Figure 22 shows a CRDC framing and PDK timeslot response operation in accordance with one or more embodiments of the present invention.

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[0032] Figure 23 shows a CRDC beacon and PDK response handshake in accordance with one or more embodiments of the present invention.

[0033] Figure 24 shows a PDK/RDC association in a CRDC cell in accordance with one or more embodiments of the present invention.

[0034] Figure 25 shows an RDC beacon transmission in accordance with one or more embodiments of the present invention.

[0035] Figure 26 shows a deep sleep state diagram in accordance with one or more embodiments of the present invention.

[0036] Figure 27 shows an authorization denial handshake operation in accordance with one or more embodiments of the present invention.

[0037] Figure 28 shows an authorization grant and association handshake in accordance with one or more embodiments of the present invention.

[0038] Figure 29 shows a single cell with multiple PDK access in accordance with one or more embodiments of the present invention.

[0039] Figure 30 shows multiple single cell RDCs with cell overlap in accordance with one or more embodiments of the present invention.

[0040] Figure 31 shows a floor layout and cell distribution in accordance with one or more embodiments of the present invention.

[0041] Figure 32 shows a gambling table with RDCs in accordance with one or more embodiments of the present invention.

[0042] Figure 33 shows a CRDC beacon to central server flow in accordance with one or more embodiments of the present invention.

[0043] Figure 34 shows a CRDC beacon to central server handshake in accordance with one or more embodiments of the present invention.

[0044] Figure 35 shows a configuration of overlapping CRDC cells in accordance with one or more embodiments of the present invention.

[0045] Figure 36 shows a c-beacon handoff for RDC-PDK communication in accordance with one or more embodiments of the present invention.

[0046] Figure 37 shows a PDK wakeup and response state flow in accordance with one or more embodiments of the present invention.

[0047] Figure 38 shows a configuration of an electronic game with an integrated RDC in accordance with one or more embodiments of the present invention.

[0048] Figure 39 shows an electronic game player tracking and game enable handshake in accordance with one or more embodiments of the present invention.

[0049] Figure 40 shows an electronic game player association handshake in accordance with one or more embodiments of the present invention.

[0050] Figure 41 shows a configuration of an electronic game with an integrated RDC in accordance with one or more embodiments of the present invention.

[0051] Figure 42 shows an electronic game player tracking and game enable handshake in accordance with one or more embodiments of the present invention.

[0052] Figure 43 shows an electronic game player association handshake in accordance with one or more embodiments of the present invention.

[0053] Each of the figures referenced above depict an embodiment of the present invention for purposes of illustration only. Those skilled in the art will readily recognize from the following description that one or more other embodiments of the structures, methods, and systems illustrated herein may be used without departing from the principles of the present invention.

DETAILED DESCRIPTION

[0054] In the following description of embodiments of the present invention, numerous specific details are set forth in order to provide a more thorough understanding of the present invention. However, it will be apparent to one skilled in the art that the present invention may be practiced without one or more of these specific details. In other instances, well-known features have not been described in detail to avoid unnecessarily complicating the description.

[0055] In general, embodiments of the present invention relate to a technique for wirelessly communicating with a plurality of client devices without data collision. Particularly, in one or more embodiments, individual client devices are assigned time slots during the client devices may wirelessly communicate.

[0056] At perhaps a most basic level, one or more embodiments includes a personal digital key ("PDK") and a reader decoder circuit ("RDC"). In general, a PDK is a portable wireless device that may be conveniently carried by an individual to facilitate

wireless tracking and/or allow the individual to wirelessly access various applications, assets, and/or services. As further described in detail below with reference to Figures 5 – 7, a PDK may be any device that (i) may be worn, placed in a pocket, wallet, or purse of a user, or attached to equipment, (ii) has a bi-directional wireless communications transceiver, and (iii) stores public and/or secret electronic identification numbers, as possibly some set of cryptographic keys. The form factor of the PDK is not limiting, so long as the PDK may be portably, and preferably conveniently and seamlessly, carried by an individual. For example, a PDK may be in the form of a "key fob" or a card, or in certain embodiments, a PDF may actually be integrated with or implemented in another device, such as a watch or mobile computing device (e.g., cellular phone, personal digital assistant (PDA)).

[0057] An RDC, as used in one or more embodiments, is a device that can wirelessly interact with a PDK to link the PDK user with various applications, assets, and/or services. The RDC may be a fixed access point serving as a gatekeeper for a PDK requesting access to a particular system. An RDC may be used in various settings and/or applications. For example, an RDC may be physically incorporated into a casino floor itself, an electronic game, a doorway, a pedestrian traffic monitoring point, a personal computer application, an e-commerce device (e.g., an automatic teller machine (ATM)), or any other application requiring a secure transaction or access control.

[0058] Further, secure data exchange for various financial and/or retail applications may be facilitated through use of a PDK and RDC in accordance with one or more embodiments. For example, a purchasing system may be implemented whereby a

consumer can purchase goods or services using his/her personal "key" (e.g., a PDK) based on the key being in detectable wireless proximity of a reader device (e.g., an RDC). The purchase transaction may then be carried out based on some data exchange between the key and the reader device, where the key stores accessible, and possibly encrypted or encoded, information about the consumer (e.g., name, address, phone number, bank account information, biometric information, credit or debit card information). The validation or authentication of the consumer may occur either on the key itself and/or by the reader device. In the case of "on-key" validation, for example, the reader device may pass some information about the consumer (e.g., a biometric input, such as fingerprint data) to the key, which then matches the data provided by the reader device with permanently stored secure data about the consumer.

[0059] Various other applications or uses involving any number of PDK and RDC devices are possible in accordance with one or more embodiments. Accordingly, while examples of scenarios and applications are described herein for purposes of illustration and clarity, the present invention is not limited to any particular application, scenario, setting, or use.

Single Cell Operation of the RDC and PDK

[0060] Now referring to Figure 1, it shows a single cell **10** in which, at some point in time, an RDC **12** and a PDK **14** are present. The RDC **12** may be some fixed device that has a cell radius defined by its wireless coverage boundary. When an individual carrying the PDK **14** comes into proximity of the RDC **12** by entering a coverage area of the RDC **12**, a wireless communications session is initiated between the PDK **14** and the

RDC **12**. If the RDC **12** determines that the PDK **14** is authorized to communicate, information between the PDK **14** and the RDC **12** may be securely exchanged. Information securely obtained from the user's PDK **14** may then be used locally or sent through a back-end communications channel to a central server (not shown). When the transaction completes or when the PDK **14** leaves the coverage area of the RDC **12**, wireless communication between the RDC **12** and the PDK **14** ceases. Thereafter, the RDC **12** may remain idle (i.e., be in a "tracking" mode) until a PDK again enters the cell **10**.

Unsynchronized Multi-Cell Operation of Multiple RDCs and PDKs

[0061] Now referring to Figure 2, in certain implementations, multiple RDC cells **20**, **22**, **24** may exist in an area. The RDCs in the multiple cells **20**, **22**, **24** may or may not be aware of each other, but are able to interact with one or more PDKs. The PDKs, in turn, are capable of interacting with the RDCs. As shown in Figure 2, there are three partially overlapping RDC cells **20**, **22**, **24**. An RDC **26**, **28**, **30** in cells **20**, **22**, **24**, respectively, is independent and may not be in association with the other RDCs. Although the cells **20**, **22**, **24** partially overlap, each RDC **26**, **28**, **30** is capable of wirelessly communicating with any PDK **29**, **31** within its cell boundary.

[0062] In one or more embodiments, the RDC **26**, **28**, **30** is capable of determining if energy is present on any given wireless channel. The RDC **26**, **28**, **30** may then determine the best channel to operate on and continue to place an identification marker (or "beacon") out for any PDK **29**, **31** that enters its cell boundary.

[0063] The PDK **29**, **31** itself may be responsible for locating an RDC **26**, **28**, **30** by searching through available wireless channels, communicating with an RDC **26**, **28**, **30**, and notifying the RDC **26**, **28**, **30** of its presence. In an implementation where two RDCs can communicate with one another (e.g., RDCs **26**, **28** in cells **20**, **22** shown in Figure 2), the RDCs may select different communication frequencies. However, in the case where cells overlap, but each RDC cannot directly communicate with one another (e.g., RDCs **28**, **30** in cells **22**, **24** shown in Figure 2), any PDK intending to access an RDC, may have to alert the RDC of possible collisions on the wireless channel on which the RDC is operating.

Synchronized Multi-Cell Operation of Multiple RDCs and PDKs

[0064] In certain implementations, multiple RDCs may be placed to allow an overlap of cells between each adjacent RDC within a confined area. This permits each RDC to be aware of its surrounding RDCs, thereby allowing synchronization of each RDC to the other. For example, now referring to Figure 3, there are shown three partially overlapping RDC cells **40**, **42**, **44** with RDCs **46**, **48**, **50**. The cell **40**, **42**, **44** of each respective RDC **46**, **48**, **50** overlaps the cell of the adjacent RDC **46**, **48**, **50**. In such a manner, each RDC **46**, **48**, **50** may initiate wireless communication with an adjacent RDC **46**, **48**, **50**. This begins a negotiation process among the RDCs **46**, **48**, **50** to determine which RDC **46**, **48**, **50** should be the coordinator and on what channel to communicate.

[0065] Although any of the RDCs **46**, **48**, **50** may be the coordinator, in the example shown in Figure 3, RDC **48** in cell **42** may be a favorable candidate. Its

selection permits ubiquitous coverage of the RDCs **46**, **48**, **50** shown in Figure 3, additionally providing multiple transactions and timing alignment through a "daisy chain" whereby RDC **46** synchronizes RDC **48** and RDC **48** synchronizes RDC **50**.

[0066] Still referring to Figure 3, each RDC **46**, **48**, **50** may also share frequency and timeslot information among each other and with one or more PDKs. It is noted that if a PDK is located at an edge of, for example, cell **40**, that PDK may still monitor the other channels that adjacent RDCs **48**, **50** are operating on, but may not have access to these RDCs. Thus, in a configuration such as that shown in Figure 3, a PDK may be forced to consume more energy due to the monitoring of multiple channels. Further, it is noted that as cell density increases, more collisions may begin occurring and/or active communication times may increase.

Coordinated Multi-Cell Operation

[0067] Now referring to Figure 4, it shows an exemplar synchronized (or "coordinated") multi-cell system **60** in accordance with one or more embodiments. As will be apparent from the description below, a synchronized multi-cell system may provide ubiquitous PDK and RDC synchronization as well as PDK battery conservation within the system **60**. Further, in addition to ubiquitous synchronization, channel and frequency capacity may both be coordinated, thereby reducing collisions while increasing system throughput.

[0068] Turning now to Figure 4 particularly, a coordinator RDC ("CRDC") **62** has ubiquitous coverage of a plurality of cells **64**, **66**, **68** in the system **60**. In one or more

embodiments, the CRDC **62** provides beacon transmissions, which can be used to synchronize a plurality of devices within the coverage area **76** of the CRDC **62**. In other words, by providing wide-area coverage, a plurality of devices, both RDCs **70**, **72**, **74** and PDKs (shown, but not labeled in Figure 4), in the coverage area **76** are able to monitor a wireless transmission beacon broadcast by the CRDC **62** and determine how and when to communicate in a coordinated manner. Further, in one or more embodiments, the CRDC **62** may broadcast additional information including, but not limited to, a beacon transmission rate, framing information, channel information, system identification, and/or cluster identification. Moreover, it is noted that although the CRDC **62** may provide timing and certain system related information, RDCs **70**, **72**, **74** and PDKs may still communicate among themselves.

[0069] As described above with reference to Figures 1 – 4, there are at least three different types of devices (or software entities) that may be used, for example, in a synchronized multi-cell system, such as that shown in Figure 4. A PDK is a trackable device having secure electronic keys and that may be portably carried by a user. An RDC is a device that acts as a gatekeeper controlling access of a PDK to a particular system. A CRDC is a device that is used to synchronize one or more RDCs and PDKs within a particular geographic area formed of either a single cell or multiple cells. A more detailed description of each of these components is now provided below.

PDK

[0070] Now referring to Figure 5, it shows an example PDK **80** in accordance with one or more embodiments. Based on a specific application or use of the PDK **80**, the

PDK **80** may have different configurations for interacting with the PDK user. For example, the PDK **80** may have no user input mechanism or display, may have a single button input mechanism, may have a multi-button input mechanism, may have a biometric input mechanism, and/or may have an interactive user input mechanism and/or display.

[0071] As shown in Figure 5, the PDK **80** has a wireless radio frequency (RF) media access control (MAC) and physical layer device **82** that facilitates bi-directional communications with external wireless RF devices, such as an RDC (not shown). In one or more embodiments, the wireless RF MAC and physical layer device **82** may communicate according to an IEEE 802.15.4 protocol. However, in one or more other embodiments, the PDK **80** may be capable of communicating according to one or more different wireless protocols.

[0072] The PDK **80** also has a service and application layer controller **84** that includes a MAC portion **94** that serves as an interface with the wireless RF MAC and physical layer device **82**. Further, the service and application layer controller **84** also includes portions that provide specific functions used to protect electronic keys and services of the PDK **80**. Further still, the service and application layer controller **84** may support an optional user interface **86**, which if implemented, allows user interaction with the PDK **80**. A cryptography engine **88** may also be resident on the PDK **80**.

[0073] Now also referring to Figure 6, it shows a non-volatile memory storage **90** and a volatile memory storage **92** of the PDK **80**. These two devices **90**, **92** are related to

security storage. In one or more embodiments, these devices **90**, **92** may be accessible by an RDC (not shown) having the appropriate security algorithms and by private service providers having the correct security information. However, in one or more other embodiments, certain secured data may not be wirelessly communicated at all, in which case, validation or authorization occurs on the PDK **80** itself.

[0074] Specifically as to the non-volatile memory storage **90**, a public serial number may be used to identify the PDK **80** and allow secure look-up of a secure serial number and a cryptography key via a remote server (not shown). The secure serial number may be thought of as being equivalent to, for example, encoded user identification information stored in a magnetic strip of a credit card, whereby such information is not visible to the outside world. The cryptography key may be used to allow decoding of the secure serial number from, for example, an RDC (not shown).

[0075] Further, it is noted that in one or more embodiments, the non-volatile memory storage **90** and associated parameter lengths may be dynamically assigned, with overall constraints depending on, for example, available memory in the PDK **80**.

[0076] Now, specifically as to the volatile memory storage **92**, this area may be used for security and may allow a service provider to store a profile containing secret keys and other secure information, such as privilege information. A service provider identification value may be stored to allow the service provider to easily identify the user. In addition, a service provider service identification value may be stored and used to allow that service provider to access that information. The PDK **80** validates that service provider identification value via the service provider secret key before allowing access to

that service provider's profile area in the PDK **80**. Further, as shown in Figure 6, the volatile memory storage **92** may have a number of service provider profiles.

[0077] Now also referring to Figure 7, the service provider profile area may be of a variable length and allow a service provider the flexibility to store various parameters. The length may be determined by a byte count following the service provider's secret key in the memory area as shown in Figure 7.

RDC

[0078] Next, turning to a more detailed description of an RDC **100** according to one or more embodiments, reference is made below to Figures 8 and 9. In general, an RDC **100**, as described above, may be fixed and used to allow a PDK access into a particular system (e.g., gaming/casino system, financial institution, retail system). The RDC **100** may have different configurations to support different types of secure transactions. Some examples of applications and uses of RDCs include, but are not limited to, casino slot machines and gaming consoles, secure entryway control, user/equipment location tracking, personal computers and components thereof (e.g., disk drives), financial institution interactions, and retail purchasing. In the case of a personal computer, or any computer system for that matter, a reader device, such as an RDC, may be used to control access to certain data stored in the computer system. Thus, in such embodiments, an RDC **100** may be thought of as providing a form of digital content management.

[0079] In certain cases, the RDC **100** effectively acts as a gatekeeper allowing authorized individuals access to specific information or transactions. In other cases,

because an RDC **100** may use proximity detection for determining if a PDK is within a particular geographical area, the RDC **100** may also be used for tracking one or more PDKs within a given area or network. In still other cases, an RDC **100** may be used for both location tracking and secure transaction purposes.

[0080] Figure 8 shows a type of RDC **100** that uses a single wireless RF MAC and physical layer device **102**. In RDC **100**, communications are passed through the single wireless RF MAC and physical layer device **102**. The single wireless RF MAC and physical layer device **102** facilitates bi-directional communication with one or more external RF wireless devices, such as a PDK (not shown). Thus, the single wireless RF MAC and physical layer device **102** may communicate with both PDKs according to assigned time slots (further described below) and one or more CRDCs (described in further detail below). Further, it is noted that in one or more embodiments, the single wireless RF MAC and physical layer device **102** may wirelessly communicate according to an IEEE 802.15.4 protocol. However, in one or more other embodiments, the RDC **100** may be capable of communicating according to one or more different wireless protocols.

[0081] The RDC **100** also has a service and application layer controller **104**. The service and application layer controller **104** has a MAC portion **106** specific to a wireless protocol of the RDC **100**. The service and application layer controller **104** may further provide functions related to associating and tracking PDKs (not shown), as well as providing information back to a service provider.

[0082] The service and application layer controller **104** includes system parameters and configuration information **108** that may be used to identify the RDC **100** and define how the RDC **100** operates within a given environment. Further, the system parameters and configuration information **108** may define how the RF link is time slotted and/or how RF frequencies are used in the system. In one or more embodiments, these values may be optimized to reduce power consumption within one or more PDKs (not shown).

[0083] Still referring to the RDC **100** shown in Figure 8, a cryptography engine **110** may also be present. One or more of various storage elements may also exist in the service and application layer controller **104**. A secure key storage area **112** may be programmed to define public, secret, and/or cryptography keys for the RDC **100**.

[0084] Further, in one or more embodiments, the service and application layer controller **104** may have additional memory areas, one or more of which may dynamically change dependent on system changes and wireless PDK connections. A volatile service provider storage **114** may allow a service provider to store semi-static information related to a specific PDK (not shown) or group of PDKs (not shown) for real-time access for those devices. An example might relate to a hotel room door lock. With a hotel room door, service provider information related to a PDK may be stored in the RDC. When a user comes within proximity of the door, the door could unlock. Thus, in this example, the RDC is not required to interface with a back-end server in real-time, thereby reducing bandwidth consumption to the back-end server, while allowing the user immediate access. Moreover, in one or more embodiments, the RDC may have a connection to a network or other infrastructure for receiving control signals as to which

PDKs should be allowed to unlock the door.

[0085] The service and application layer controller **104** may also have a proximity tracking PDK list **116** that includes PDK identity information, signal quality metrics, and/or time stamps for each PDK (not shown) that is in proximity of the RDC **100**. Such information may be used in the RDC **100** to perform an operation and/or may be relayed to a back-end server when, for example, location tracking is desired.

[0086] Still referring to Figure 8, the service and application layer controller **104** may also have an associated PDK parameter storage **118**. The associated PDK parameter storage **118** may contain a list of one or more PDKs (not shown) actively performing transactions with the RDC **100**. It is noted that in one or more embodiments, although such transactions are performed with the RDC **100**, the actual processing result of the RDC **100** to/from PDK transaction may be passed to a back-end server for further processing.

[0087] A service provider interface **120** may allow both control and query of the RDC **100**. The service provider interface **120** may further provide the transport for keys from a PDK (not shown). In one or more embodiments, the service provider interface **120** may use a universal asynchronous transmitter receiver (UART) interface and may allow some level of control and status of the RDC **100**.

[0088] An external service provider controller **122** may be attached to the service provider interface **120** with a system stack **124** residing in the external service provider controller **122**. The system stack **124** may allow a third party to easily interface with the

RDC **100**, possibly requiring function calls to the system stack **124**. Further, the external service provider controller **122** may provide translation of data. It is still further noted that the external service provider controller **122** and the RDC **100** may reside on the same physical component (e.g., circuit board).

[0089] Now referring to Figure 9, it shows another type of RDC **130**, which has an additional wireless RF MAC and physical layer device **132**. In this configuration, components having like reference numbers as those reference numbers in Figure 8 function identically or similarly to the corresponding components in Figure 8. The additional wireless RF MAC and physical layer device **132** may be used to maintain synchronization with a CRDC (not shown) and pass networking related information, while the other wireless RF MAC and physical layer device **102** may be used to communicate with one or more PDKs (not shown) within a cell of the RDC **130**. Further, the service and application layer controller **104** may have an additional MAC portion **134** to interface with the additional wireless RF MAC and physical layer device **132**.

[0090] Still referring to the RDC **130**, the use of dual wireless transceivers **102**, **132** may allow for increased throughput and efficient use of the RF spectrum available to the system. Thus, in other words, these multiple wireless links allow simultaneous reception of data from client devices (e.g., PDKs) and of CRDC timing information on separate channels, thereby eliminating the need for back-channel synchronization of the network. Further, the multiple wireless links may allow for the simultaneous proximity sensing of multiple client devices (e.g., PDKs) in a "tracking" mode, along with the association of a client device with one particular cell for wireless application (e.g., secure transaction)

purposes. For example, an RDC serving as a wireless player tracking device on a casino floor may, while keeping track of multiple transient players entering and leaving the zone of coverage of that particular tracking device, invite a particular player to begin a gaming session. This session may also include the exchange of player information with, for example, both the game and its back-end server to allow credit for games played and money spent. In another scenario, the system may facilitate another entire suite of applications, such as, for example, unlocking a hotel room door, while simultaneously keeping track of unrelated client devices coming and going within its coverage range.

CRDC

[0091] Next, turning to a more detailed description of a CRDC according to one or more embodiments, a CRDC may, for example, be an RDC of either of the types described above with reference to Figures 8 and 9. At least one difference, however, between a CRDC and an RDC is that the CRDC has increased RF power output, or more generally, casts a broader range of wireless coverage. Another difference is that, in one or more embodiments, a CRDC may not communicate bi-directionally with a PDK, whereas an RDC of the types described above with reference to Figures 8 and 9 may. Moreover, a CRDC may be capable of communicating with another CRDC, and may also be capable of communicating with an RDC. It is noted that CRDC-CRDC communication may allow for frame synchronization and frequency planning without requiring a wired connection between the CRDCs. The same may be true for CRDC-RDC communications. In certain implementations, it may occur that CRDC cell boundaries do not overlap, and thus, the corresponding CRDCs may not be able to

directly communicate with another. In this case, an RDC that is between the cells may communicate with both CRDCs and act as a communication bridge to pass frequency and other control information in an effort to coordinate the system.

[0092] Still describing the general application and use of a CRDC in accordance with one or more embodiments, the CRDC may serve as a stand-alone wireless beacon that may be used to coordinate the timing and activities of individual, physically separated wireless providers (e.g., RDCs) with defined coverage areas, along with their clients (e.g., PDKs) in an autonomous, wireless proximity sensing and data transfer network. A CRDC may also be used to propagate system-wide information (e.g., periodic changes in cryptographic keys), thereby relieving traffic otherwise loading a wired back-end network linking individual cells to the back-end system. Thus, the CRDC may act as a system-wide master clock across multiple cells that may not be close enough to synchronize with each other directly without a wired connection.

Wireless Protocol

[0093] As described above, a system in accordance with one or more embodiments may rely, or at least partly be based, on an IEEE 802.15.4 protocol. In relation to a protocol usable in one or more embodiments, a "timeslot" is defined as a period of time that information is communicated between two devices. Figure 10 shows an example of portions of a timeslot in accordance with one or more embodiments. The timeslot is divided into a frame (or physical packet data unit (PPDU)) and inter-frame spacing (IFS). The frame includes synchronization information and carries the payload of data. The IFS allows time for a receiving end unit to process the data in the frame and transmitter turn-

around time. Both the PPDU and the IFS may be variable in length as determined by an amount of data carried in the frame.

[0094] The frame is broken down into a sync header (SHR), a physical header (PHR), and a physical service data unit (PSDU). The SHR may contain a preamble sequence and start-of-frame delimiter (SFD) that allows a receiving device to acquire the RF signal and synchronize to the frame. The PSDU may then be used to carry both 802.15.4 MAC and user data information. Further, it is noted that the PSDU may be of a variable length that is determined by the type of MAC and data information being carried.

[0095] Still referring to Figure 10, the frame may be further divided into symbols, which, in turn, are divided into bits. In one or more embodiments, each symbol may includes 4 bits that are sent least significant bit to most significant bit at the base band level.

[0096] Now referring to Figure 11, a "superframe" is formed of multiple timeslots. The superframe may be used in a beacon-enabled synchronous network where PDKs can find an RDC and/or CRDC fixed device. The superframe may allow a PDK to efficiently determine if an RDC is present on any given frequency.

[0097] The superframe may be configured such that timeslot 0 (TS_0) is the "beacon timeslot." Each superframe that is transmitted may start with a beacon timeslot. Further, each timeslot may be equally spaced so that a PDK and RDC can communicate.

[0098] Further, it is noted that in one or more embodiments, a superframe may be

of a variable length dependent on the resolution to a timeslot. The initial number of timeslots within a superframe may be, for example, 16; but, in one or more other embodiments, a superframe may have a different number of timeslots.

[0099] Now referring to Figure 12, a "coordinator superframe" (c-superframe) may be formed of multiple superframes. In one or more embodiments, a c-superframe may be generated by a CRDC. A c-superframe may provide one or more advantages over a superframe. For example, a c-superframe may provide better battery management for a PDK, as well as provide distributed superframe and timeslots in a high density networking environment.

[00100] As shown in Figure 12, a c-superframe may have multiple superframes. Because each superframe may have a beacon, as described above with reference to Figure 11, multiple beacons may be transmitted per c-superframe. This may allow a PDK to quickly determine if it is within a system. A c-superframe may also number the superframes, so that both an RDC and a PDK can realize their position within the framing structure.

[00101] Figure 13 shows an overall framing structure of a timeslot as described above with reference to Figure 10, a superframe as described above with reference to Figure 11, and a c-superframe as described above with reference to Figure 12.

Beacons

[00102] As discussed above with reference to Figure 11, a beacon may be sent in every superframe. The beacon is used to alert PDKs (and RDCs when a CRDC is

present) of system information and timing of the framing structure employed. In one or more embodiments, such a configuration may be implemented using an IEEE 802.15.4 protocol. However, in one or more other embodiments, communication may occur according to one or more different wireless protocols.

[00103] In a single cell configuration in which one RDC is present (shown, for example, in Figure 1), the beacon may be transmitted in timeslot 0 of a superframe boundary. By transmitting the beacon periodically, a PDK may wake up and find the beacon within a short period of time and realize that it is within some particular network.

[00104] In an unsynchronized multi-cell configuration in which multiple RDCs are geographically located near each other, but no synchronization between RDCs is implemented (shown, for example, in Figure 2), a PDK may still wake up, detect the presence of the RDCs, and synchronize and communicate with each RDC due to the presence of the beacon on each RDC.

[00105] In a high density area in which multiple RDCs are present, a CRDC may most likely be present. In such a configuration, the CRDC may transmit the beacon, and all RDCs and PDKs in the coverage area of the CRDC align to the CRDC beacon. The CRDC may send a beacon on each superframe, as well as a c-superframe and other configuration information to the RDCs and PDKs.

[00106] Now referring to Figure 14, in a single cell configuration (shown, for example, in Figure 1), a beacon is periodically output based on a specific number of timeslots. Further, in one or more embodiments, the beacon may be used in accordance

an IEEE 802.15.4 protocol, with additional data attached indicating it is an RDC. At the end of each superframe, there may exist an additional idle period that allows tolerance in an over-the-air protocol.

[00107] After a beacon is transmitted, a PDK may immediately respond provided it follows the rules of what is know in the art as "carrier sense multiple access – collision avoidance" (CSMA-CA). If a PDK finds that the channel is busy in the current timeslot, the PDK may back-off and attempt again to access the RDC in another timeslot following the same rules. In the case the PDK is not able to communicate with the RDC, the PDK may wait for the next beacon and attempt again.

[00108] Figure 15 shows a single cell configuration in accordance with one or more embodiments. As shown in Figure 15, a single fixed RDC **140** may be connected to a back-end server (not shown). The single cell system shown in Figure 15 includes, for example: a computing controller with an operating system, an application, a back-end server interface, and a system stack; the RDC **140**, which is the gateway for a PDK and performs authorization (the system stack and RDC **140** together allow a user who has a PDK to access the application dependent on authorization from the back-end server); and a PDK **142** that includes necessary security information and is within reasonable proximity to wirelessly communicate with the RDC **140**.

[00109] An example handshake of the PDK **142** with the RDC **140** is shown in Figure 16. The RDC **140** outputs a periodic beacon based on timeslot 0 of a superframe. Eventually, a user walks within the coverage area of the RDC **140**, and the user's PDK **142** detects the beacon from the RDC **140**. The PDK **142** determines if it is registered to

this RDC **140** (or network), and, if so, responds with a PDK location response. The RDC **140** then detects the PDK location response and performs a link request to the PDK **142**. The PDK **142** then accepts the request by replying with a link grant, and the two devices **140**, **142** are now in data exchange mode. In data exchange mode, the two devices **140**, **142** may transfer specific security information that result in the RDC **140** enabling access to the system through the system stack, computing controller, and/or back-end central server.

[00110] Periodically, data may be exchanged between the RDC **140** and the PDK **142** to ensure that the PDK **142** is still within close proximity of the RDC **140**. As long as data exchange continues on a periodic basis, the application may remain enabled and the user can continue to access the application.

[00111] After some amount of time, the user walks away from the RDC **140** causing the data exchange to cease, in which case, the system stack indicates to the computing controller that the PDK **142** is out of range. The computing controller then disables the application to prevent unauthorized access. Regardless of data exchange, the RDC **140** may continue to transmit periodic beacons to guarantee that other PDKs may gain access to the application.

[00112] Now referring to Figure 17, a configuration of a "coordinator beacon" (c-beacon) is shown. The coordinator beacon may be generated by a CRDC, or RDC behaving like a CRDC. As described above, a CRDC may cover a large geographic area covering a plurality of RDCs and PDKs within that area. The c-beacon may be a standard beacon sent in the first timeslot of each superframe as shown in Figure 17.

[00113] A c-beacon, in accordance with one or more embodiments, may have properties that are different than those associated with an IEEE 802.15.4 standard beacon. For example, the standard c-beacon carries a field indicating the beacon is a c-beacon. Further, a c-beacon, in normal operation, is a unidirectional transmission from a CRDC. Further still, a c-beacon may contain other c-beacon related information: number of slots in a superframe; number of superframes in a c-superframe; the channels on which adjacent CRDCs operate; current superframe number; current c-superframe number; site ID; CRDC ID; PDK superframe mask; and PDK timeslot mask.

[00114] Further, it is noted that while beacons may be transmitted from a CRDC on timeslot 0 of each superframe, remaining timeslots of a superframe may be left open for unsynchronized communications between PDKs and RDCs. The term "unsynchronized" is used to describe communications between the PDKs and the RDCs because the RDC and PDK share a common CRDC beacon, but the PDK may not get synchronized directly to an RDC beacon. In this manner, the PDK and RDC may appear to represent a peer-to-peer network.

[00115] C-beacon information described above relates to configuration fields that allow the system to operate efficiently when using a CRDC. In the case of, for example, a large scale system, a service provider of the system may have knowledge of RDC coverage relative to the CRDC. The following description provides details of these fields.

[00116] A "superframe_len" field may be governed by an IEEE 802.15.4 protocol. The number of slots may be from, for example, 2^1 to 2^{14}. The number of slots in a

superframe may be used to define the repetition rate for the beacon.

[00117] A "c-superframe_len" field may be used to define a higher layer counter used for extended power savings in a PDK. The c-superframe_len value may also define the number of beacons within a superframe. If the superframe is configured to not have a beacon, then this field may be ignored.

Name	Type	Valid Range	Description
C-Superframe_Len	Integer	0 to 15	Defines the number of Superframes in a C-Superframe. Number of Superframes is defined as $2^{\text{C-Superframe\_Len}}$

[00118] A "CRDC_chan_flags" field may be used to indicate to a PDK what channels are used by adjacent CRDCs.

Name	Type	Bit	Description
CRDC_Chan_Flags	Binary		When any bit in this field is set to a 1, an adjacent CRDC is transmitting on that frequency.
	Binary	0	1 = Channel 0 available 0 = Channel 0 not available
	Binary	1	1 = Channel 1 available 0 = Channel 1 not available
	Binary	2	1 = Channel 2 available 0 = Channel 2 not available
	Binary	3	1 = Channel 3 available 0 = Channel 3 not available
	Binary	4	1 = Channel 4 available 0 = Channel 4 not available
	Binary	5	1 = Channel 5 available 0 = Channel 5 not available
	Binary	6	1 = Channel 6 available 0 = Channel 6 not available
	Binary	7	1 = Channel 7 available 0 = Channel 7 not available
	Binary	8	1 = Channel 8 available 0 = Channel 8 not available
	Binary	9	1 = Channel 9 available

			0 = Channel 9 not available
	Binary	10	1 = Channel 10 available 0 = Channel 10 not available
	Binary	11	1 = Channel 11 available 0 = Channel 11 not available
	Binary	12	1 = Channel 12 available 0 = Channel 12 not available
	Binary	13	1 = Channel 13 available 0 = Channel 13 not available
	Binary	14	1 = Channel 14 available 0 = Channel 14 not available
	Binary	15	1 = Channel 15 available 0 = Channel 15 not available

[00119] A "superframe_cnt" field may be used to define a current superframe (or beacon) count within a c-superframe. If the superframe is configured to not have a beacon, then this field may not be transmitted.

Name	Type	Valid Range	Description
Superframe_Cnt	Integer	0 to 65535	Defines the current Superframe count.

[00120] A "c-superframe_cnt" field may be used to define a current c-superframe count. If the superframe is configured to not have a beacon, then this field may not be transmitted.

Name	Type	Valid Range	Description
C-Superframe_Cnt	Integer	0 to 65535	Defines the current C-Superframe count.

[00121] A "PDK_sf_ts_msk" field may be used to define the bits of a superframe count and the timeslot count to use for PDK superframe and timeslot sequencing while in a tracking mode. If the superframe is configured to not have a beacon, then this field may not be transmitted.

Name	Type	Valid Range	Description
PDK® _SF_TS_Msk			Defines which bits are to be used for determining PDK® superframes and timeslots to communicate with an RDC during location tracking.
Superframe Mask	Binary	0000000000000 to 1111111111111	Defines the Superframe mask 1 = enable bit 0 = mask bit
Timeslot Mask	Binary	000 to 111	Defines the Timeslot mask 1 = enable bit 0 = mask bit

[00122] The PDK_sf_ts_msk value may be used in conjunction with a portion of the service provider unique PDK identification value and may be used to determine the exact superframe and timeslot the PDK is permitted to transmit a location identifier back to the RDCs. The necessary logic and variables required to perform this operation are illustrated in Figure 18.

[00123] Further, in one or more embodiments, to set the mask value of a particular PDK, a "set_pdk_msk_val" function may be used. The mask may be used over the superframe and timeslot counts and service provider's PDK ID to determine the superframe and timeslot the PDK is active on in the framing structure. In other words, the set_pdk_msk_val function may be used to set a mask for the PDK in an effort to establish at what times the PDK can communicate with an RDC. The function may return a pass or fail indication to indicate whether the mask has been successfully set. Conversely, to obtain the mask value being used by a particular PDK, a "get_pdk_msk_val" function may be used to retrieve the current PDK superframe and timeslot mask parameters.

[00124] Using, for example, the masking approach described above, individual client

devices (e.g., PDKs) within a given cell (e.g., an RDC's wireless coverage area) may be addressed via real-time re-provisioning on command. Thus, in other words, by reserving time slots for both client device transmission and reception (based on masks established by the network), client transmission and reception time slots may be efficiently coordinated to reduce collision likelihood and allow for tiered client access, assignment of specific classes, and/or targeting an individual user for preferential, non-contended system access. Further, in one or more embodiments, bit masks may be changed to include or exclude specific users (or classes of users). Still further, in one or more embodiments, bit masks may be changed to dynamically alter access to the network by users or classes of users as traffic load on the network changes. Moreover, it is noted that once a specific client exits the network, previously reserved time slots of that client may be reassigned to one or more other client devices in the network.

[00125] To provide an example, there may be multiple client devices (e.g., PDKs) in proximity of a particular fixed reader device (e.g., an RDC). Each of these client devices, other than providing a location response, may request some data exchange with the reader device in order carry out a secure transaction. In an effort to reduce collision and coordinate the time slots that each client device "talks" with the reader device, a mask may be communicated to each client device to set the times at which the client device is to communicate with the reader device. Further, certain ones of the client devices may be afforded some level of priority, in which case the masks would be set accordingly. For example, masks may be set according to a class of a user of a PDK or to a class of the PDK itself. To facilitate such differentiation, priority level or tier level data may be

present in an RDC or CRDC to be used when setting a mask for a particular client device or group thereof. Thus, in such a manner, there is provided a technique for dynamic real-time tiered client access. Moreover, it is noted that in one or more embodiments, a CSMA-CA mechanism may be implemented as a backup approach to facilitate data exchange.

[00126] Further, in one or more embodiments, utilization of a tiered access system to transfer and receive data to/from a specific user or client device anywhere within a wireless network may allow for simultaneously operating network-wide two-way communications without altering the network. Thus, in other words, although one or more embodiments relate to an autonomous wireless proximity sensing and data transfer network, such a network may be used to notify, page, or transfer data possibly unrelated to one or more of the applications which a majority of the client devices on the network are using (or typically use) (such applications being for the purposes of, for example, tracking, access control, and/or digital rights management). In another example, a network device may be able to associate a PDK ID to a particular user and then provide messaging capability based on the identity of the user. Thus, in this case, one or more embodiments may be combined with tiering to provide multiple messaging levels for different users.

[00127] The ability to assign tiers to the network may also enable low latency responses from targeted client devices. Accordingly, by integrating features into the client device that may take advantage of a two-way network capability, a system in accordance with one or more embodiments may allow for the simultaneous

communication and control of external devices via real-time client command along with a general purpose low data rate two-way network.

[00128] Continuing with the description of c-beacon information in accordance with one or more embodiments, a "site_ID" field may carry a value that each CRDC transmits to all PDKs and RDCs within a coverage area of the CRDC. The site_ID value allows a PDK to determine if it can access the current site or if it needs to request permissions to access the site's network.

Name	Type	Valid Range	Description
Site_ID	Integer	0 to 65535	Defines the current sites ID.

[00129] A "CRDC_ID" field may carry a value that each CRDC transmits to all PDKs and RDCs within a coverage area of the CRDC. The CRDC_ID may be used, for example, for geographical reference.

Name	Type	Valid Range	Description
CRDC_ID	Integer	0 to 65535	Defines the current CRDC ID.

[00130] Now turning to a description of a use of a c-beacon, reference is made to Figures 19 and 20. A location tracking example in accordance with one or more embodiments is shown in Figure 19. There are various different types of devices in the system **150** shown in Figure 19. First, there is a CRDC **152** that may provide system information and facilitate synchronization for RDCs and PDKs. The system **150** also has RDCs **154**, **156**, which listen for PDKs and report the status of each PDK found within its respective cell **158**, **160**. The system **150** further includes a PDK **162** that is mobile and capable of being moving around. Further, the system **150** has a server **164**, which is the back-end computer that controls the CRDC **152**, acquires information from the RDCs

154, **156**, and may provide a graphical representation to monitoring personnel via a computer monitor (not shown).

[00131] Accordingly, Figure 19 shows how location tracking of a PDK is possible and a handshake between different parts of the system **150**. A handshake example of PDK location tracking in a CRDC configuration is shown in Figure 20. The CRDC **152** periodically broadcasts a beacon in timeslot 0 of each superframe. Enabled client devices within the CRDC cell boundary receive the beacon. After the PDK **162** receives the beacon and determines that the beacon is from a system that it is registered to, the PDK **162** broadcasts a PDK location response that is received by the RDCs **154**, **156**. Both RDC **154** and RDC **156** receive the response, log the PDK ID, the signal quality metrics, and timestamps the information. The packet of information may then be sent to the server **164**, where the server **164** processes the data from each RDC **154**, **156** and performs a location estimation that may then be presented to an operator. At the beginning of the next superframe, the beacon is again transmitted and the process is repeated until the PDK **162** can no longer be heard due to it being out of range.

[00132] Now referring to Figure 21, it shows a system **170** in which both PDKs and RDCs are coordinated within a CRDC cell boundary. Because, in one or more embodiments, RDCs are stationary devices and may occasionally be relocated, the RDCs may be initially coordinated by manually configuring both timeslots and frequencies they operate on.

[00133] As shown in Figure 21, one CRDC cell **172** and 6 smaller RDC cells **174**, **176**, **178**, **180**, **182**, **184** exist. The CRDC cell **172** provides ubiquitous coverage to the

RDC cells **174**, **176**, **178**, **180**, **182**, **184**. Each RDC cell **174**, **176**, **178**, **180**, **182**, **184** overlaps its adjacent RDCs in a manner resulting in a high rate of collisions if the RDCs **186**, **188**, **190**, **192**, **194**, **196** attempt to communicate with a PDK **198** on the same channel. It is envisioned that all the RDCs **186**, **188**, **190**, **192**, **194**, **196** could be on different frequencies, but then the PDK **198** would be required to access each frequency for some duration, resulting in reduced battery life. To eliminate interference between the RDCs **186**, **188**, **190**, **192**, **194**, **196** and provide the PDK **198** with an efficient means to conduct secure transactions, the system **170** shown in Figure 21 may be used.

[00134] To optimize the system **170** for battery conservation of the PDK **198**, each RDC **186**, **188**, **190**, **192**, **194**, **196** may be provided with a dual RF physical interface. The primary interface is for monitoring a c-beacon and the PDK **198** located in close proximity, and to signal the PDK **198** to switch to another channel for further communications with that particular RDC. In this case, the CRDC (not shown) may transmit c-beacons, whereby all RDCs and PDKs will gain timing synchronization.

[00135] Based on the configuration shown in Figure 21, the c-beacon fields described above may be configured as follows: superframe_len = 4 (2^4 = 16 timeslots); c-superframe_len = 4 (2^4 = 16 superframes); CRDC_chan_flags = b0000000000000010 (most significant bit to least significant bit – CRDC channels); PDK_sf_ts_msk = b000000000011111 (mask all but 2 least significant bits of the superframe count and don't mask any timeslot bits); site_ID = 0x1234 (arbitrary site identification); and CRDC_ID = 0x0001 (arbitrary CRDC_ID).

[00136] Another piece of information that may be inherent to the PDK is a unique

service provider PDK ID. The unique service provider PDK ID is located in the PDK and may be compared with the superframe and timeslot count prior to applying the mask, but may not affect the superframe and timeslot counts from a time reference standpoint. In this case, the unique service providers PDK ID for this PDK may be equal to 0x0003.

[00137] Using the above described values for the c-beacon, the following system attributes result (the superframe is 16 timeslots long, so once out of every 16 timeslots, a c-beacon is created allowing the PDK to determine if a system with the correct system ID exists): the c-superframe length is set to 16; the CRDC_chan_flags indicate to the PDK the number of CRDC channels available in the system; the PDK_sf_ts_msk indicates which bits to logically AND with the superframe and timeslot count to determine which slots to respond on (in this case, the PDK_sf_ts_msk is a hex value of 0x001F that is ANDed with the superframe and timeslot count resulting in one response timeslot); and the site_ID and CRDC ID are arbitrary values and may be left to the service provider for selecting unique identification values.

[00138] Using the above described exemplar system configuration information and having a PDK with a unique service provider ID of 0x0003, Figure 22 shows how the PDK may operate in a CRDC framing structure. As shown in Figure 22, the c-superframe_len is set to 16 – thus, the superframe count counts from 0 to 15 and then starts over at 0. Each superframe then includes 16 timeslots of which the first timeslot is timeslot 0 and includes the beacon. The superframe_len is also set to 16 – thus, there are 16 timeslots for each superframe. Again, the timeslots are numbered from 0 to 15, and restart at 0 for each superframe.

[00139] In one or more embodiments, based on the parameters set by the system and the unique service provider PDK ID, the PDK may periodically transmit a PDK location response in timeslot 3 of each superframe on a modulo 4 basis. This causes the PDK to respond in timeslot 3 of superframes 0, 4, 8, and 12 of a c-superframe. It is noted that the PDK may follow the CSMA-CA standard and if the PDK cannot respond in its timeslot, it may wait for its next designated superframe and timeslot to respond.

[00140] If an RDC requests to begin communication with a PDK, the RDC may immediately respond on the next even timeslot, which, in this case, is timeslot 4. Any RDC may respond, but RDCs may have to use the CSMA-CA rule prior to responding to the PDK transmission. If an RDC begins communications with a PDK, the following timeslot may be used to instruct the PDK to go to another channel, where bi-directional communications may commence.

[00141] Further, in one or more embodiments, an active superframe may occur when unmasked bits in the superframe count equal the corresponding unmasked bits in the unique service providers PDK ID. In this case, the superframe mask is a value of 0x003 and the unique service provider PDK ID is 0x0003.

[00142] With this information, the following calculation occurs:

	b000000000000	superframe count[15:4]
xor	b000000000000	unique Service Provider PDK® ID[14:3]
	b000000000000	result of xor function
and	b000000000111	Superframe Mask[11:0]
	b000000000000	result of AND function
	nor all bits	
	1	result is true

[00143] As shown above, a portion of the superframe count is exclusive-ORed with a portion of the unique service provider PDK ID. The result of the exclusive-OR is all 0's. Then, the superframe mask is ANDed with the result of the exclusive-OR function. The AND operation also results in all 0's. The result of the AND function is then compared to zero by NORing all of the bits together and results in a 1 or "true" output, indicating the bits compared between the superframe count and the unique service provider PDK ID are a match.

[00144] An active timeslot occurs when the unmasked bits in the 3 most significant positions of the timeslot count equal the unmasked bits in the unique service provider PDK ID's 3 least significant bits and the timeslot count least significant bit is a 1 (the PDK transmits on odd frames). In this case, the timeslot mask is a value of 0x7 and the unique service providers PDK ID's 3 least significant bits are 0x3.

[00145] With this information, the following calculation occurs:

	b011	timeslot count[3:1]
xor	b011	unique Service Provider PDK® ID[2:0]
	b000	result of xor function
and	b111	Timeslot Mask
	b000	result of AND function
	nor all bits	
	1	result is true

[00146] As shown above, the timeslot count is exclusive-ORed with a portion of the unique service provider PDK ID. The result of the exclusive-OR is all 0's. Then, the timeslot mask is ANDed with the result of the exclusive-OR function. The AND operation also results in all 0's. The result of the AND function is then compared to zero by NORing all of the bits together and result in a 1 or "true" output, indicating the bits

compared between the timeslot count and the unique service provider PDK ID are a match.

[00147] The last portion of the calculation that needs to be completed (as described above) is to verify the last bit of the slot count is a '1,' indicating an odd slot. If the unmasked superframe and timeslot bits do not match the appropriate unique service provider PDK ID, the results will be "false" and no match will occur. In the examples described above, the superframe mask was set to unmask the 2 least significant bits of the superframe count to show that it is possible to allow a PDK to come up more frequently than the c-superframe count. By increasing the superframe mask to 4 bits, this example would allow the PDK to respond once per c-superframe (because the c-superframe was set to 16) and the modulo for the mask would be 2^4, or 16.

[00148] The timeslot mask may be set to allow all timeslot bits to be correlated to determine the timeslot, allowing the PDK to respond once per superframe. Further, it is noted that it may be possible to mask some of the timeslot bits to increase the number of times a PDK can respond within a superframe.

[00149] In one or more embodiments, a PDK may periodically wake up to determine whether it is within a particular system. Upon a periodic wake up, the PDK will detect a c-beacon indicating that the particular system is present, along with system information. The PDK will collect the system information and determine the current superframe count of a c-superframe. The PDK may also put parameters (e.g., PDK_sf_ts_msk) in place to start immediate battery save in the system.

[00150] Based on an approximate time, the PDK may awake just prior to where it believes the next superframe is that it should communicate on, and will listen for the beacon and begin responding with the PDK location response message.

[00151] As shown in Figure 23, a CRDC may update its system information on each superframe and output a c-beacon with current information to all PDKs and RDCs. The PDK then waits for its predefined superframe and timeslot and responds. This scenario continues to occur until the PDK leaves the CRDC cell or an RDC responds to the PDK.

[00152] As described above, a CRDC may continue to output a c-beacon, and the PDK periodically awakes to re-align to the superframe and respond to the c-beacon. If a RDC is present and wants to communicate with the PDK, the RDC may respond on the even timeslot immediately available after the PDK's transmission. Figure 24 shows how the communications handshake between the PDK and RDC may occur. Particularly, Figure 24 depicts one CRDC, one RDC with two active channels (i.e., using two wireless links), and a PDK.

[00153] With continued reference to Figure 24, the CRDC outputs a c-beacon of which the RDC and PDK are aligned. The PDK realizes that the c-beacon's superframe count correlates to its internal predefined active superframe count, and then waits for the appropriate timeslot to respond to the system with its PDK location response. When the PDK responds on the c-beacon channel, the RDC detects the response and determines that it wants to associate with the PDK. The RDC then creates a message including its own RDC ID, the PDK's ID, a command to switch to channel 2, and a predicted superframe and timeslot the PDK should respond on. The PDK, in response, switches to

channel 2 and waits for the appropriate superframe and timeslot count and transmits a link request along with its PDK ID and the destination RDC ID. The destination RDC then receives the information and responds back to the PDK with a link grant. Communications may now begin between the two devices exchanging the appropriate information to maintain the PDK-RDC link. To maintain synchronization, the RDC may define the periodic communication frequency with the PDK and will periodically generate a request to the PDK to exchange information. The PDK may then reconfigure its wake parameters to that of the RDC, as the RDC is maintaining superframe synchronization.

[00154] It is noted that in one or more embodiments, such as that described immediately above, the RDC may have a dual physical interface, maintaining synchronization with the CRDC on channel 1, while associating with one or more PDKs on channel 2. The physical interface connected to channel 1 provides timing to the physical interface on channel 2.

[00155] Further, because the RDC may have intelligence on both channels, the RDC may provide coordination of PDKs that it wants to redirect to channel 2 and PDKs that are on channel 2. More specifically, the RDC may move the superframe and timeslot that a PDK communicates to the RDC on, if another PDK with the same timeslot requirements is present on channel 1 and the RDC wants to associate with it.

CRDC Slot and Channel coordination

[00156] In one or more embodiments, a CRDC may be configured via a remote

connection to a server or automatically. Using remote configuration, the server may have knowledge of RDCs located within the CRDC cell boundary and may perform optimum channel and timeslot planning.

[00157] When the CRDC is configured automatically, the CRDC may scan all channels and find the channel with the least interference. The CRDC may then begin transmitting a c-beacon.

[00158] All RDCs located within a CRDC cell boundary may place the CRDC into its local CRDC database and complete scanning all other channels to determine if other CRDCs are present. In the case multiple CRDCs are found, the RDC may communicate to each CRDC its findings if possible.

[00159] Each CRDC may coordinate through that RDC to setup channels and timeslots to prevent interference between CRDCs. In one or more cases, the CRDC may select another channel and disregard the timeslot information because CRDCs may not be required to be timing coordinated. Further, it is noted that any RDC that detects more than one CRDC may select the CRDC with the best signal quality.

Protocol Operation

[00160] The following describes a protocol operation in a single cell coordinated system using a CRDC configuration. In one or more embodiments, there may be additional protocol fields required to allow interoperability between single cell and coordinated multi-cell configurations. Such additional protocol fields may provide information to RDCs and PDKs that are located in near proximity to each other, or within

a CRDC cell.

[00161] A network format field may provide information to RDCs and PDKs related to the specific configuration the single cell or coordinated cells are operating in.

Name	Type	Valid Range	Description
Proxense_NWK_FMT			Defines the network configuration employed for an RDC or CRDC
Network Type	Integer	0 to 7	Defines the network type employed. 0 = Single Cell 1 = Multi-Cell coordinated 2 = Multi-Cell coordinated w/ CRDC 3 – 7 = RFU
Beacon Source	Binary	0 or 1	Defines the source of the beacon. 0 = RDC 1 = CRDC
Broadcast Flag	Binary	0 or 1	Defines if this is a broadcast message. 0 = not broadcast 1 = broadcast
Timeslot Select	Integer	0 to 3	Defines how an RDC and PDK® utilize timeslots in a system. 0 = no timeslots assigned 1 = 802.15.4 Beacon enabled 2 = PDK® uses even timeslots / RDC uses odd timeslots 3 = PDK® uses odd timeslots / RDC uses even timeslots

[00162] A network type value may be used to define a cell network configuration. An RDC receiving this field may determine its operating mode based on this field. If an RDC receives a network type of single cell from another transmitting RDC, the RDC may tune to another channel to avoid collisions with the other RDC. If the RDC receives a network type of coordinated multi-cell, the RDC may join the multi-cell coordinated system. If the RDC receives a network type of coordinated multi-cell with CRDC, the

RDC may join the CRDC network if the site ID is the same.

[00163] The PDK may also receive this information and adjust its operating mode to comply with the system employed. If the PDK detects the system to be single cell, the PDK may conform to more of an IEEE 802.15.4 protocol, communicating with the RDC in such a manner. The PDK may be aware that it is required to communicate with a specific RDC ID. The PDK may still have the capability to periodically monitor other channels for other RDCs in the local vicinity.

[00164] If a PDK detects the system is multi-cell coordinated, the PDK may receive further information indicating the other RDC frequencies in use in the coordinated network and may adjust its system operating parameters appropriately.

[00165] If the PDK determines the system is multi-cell CRDC coordinated, the PDK may adjust its operating parameters appropriately. The PDK may acknowledge that a c-beacon is present and may broadcast a PDK location response. The PDK may also understand that an RDC with a different ID other than a CRDC ID may attempt to communication with the PDK.

[00166] A "beacon source" field may indicate to all RDCs and PDKs in the general proximity of the type of beacon being generated. This information may be helpful, specifically when in a multi-cell CRDC system, and allows RDCs to distinguish between RDC generated beacons and CRDC generated beacons.

[00167] A "broadcast flag" may indicate to all recipients that the information being sent is intentionally being broadcast to all devices that can receive particular protocol

information. In some cases, a message that may be sent to a specific PDK may also be broadcast to all PDKs. This flag assists the PDKs in determining how to treat the information.

[00168] A timeslot select field may indicate to PDKs and RDCs how the timeslots are configured in the system. This field may further be used to determine if an RDC and PDK are to use even-based or odd-based timeslots for responding.

[00169] In order for an RDC or PDK to determine that a network is of a particular type, a network identifier may be used.

Name	Type	Valid Range	Description
Proxense Network Identifier	ASCII	Proxense	An 8 byte ASCII value identifying the network to be a Proxense network

Single Cell Standalone Operation

[00170] The following description is based on, for example, an electronic game (such as one that may be found in a casino) operating in a single cell configuration and attached to some central server. However, it is noted that as described above, examples of applications and uses are for purposes of illustration and clarity and do not limit the present invention.

[00171] The game has a resident RDC integrated into its hardware and has a system stack that allows access to the game. The RDC may be attached to the game controller, or may use a separate controller containing the system stack and an interface to the central server.

[00172] For clarity, any interactions between the RDC and the server will assume

that the reader understands that the system stack and server interface application are taken into account in the transactions described.

[00173] This description covers the basic initialization of the system and RDC / PDK interactions that occur while associated in the system. The following concept defines how, for example, a casino game in a single cell configuration may be setup with multiple player PDKs. Upon power being applied to the game and RDC, the internal circuits perform an initialization function and the operating system and game load. The game and RDC indicate to the central server that power has been applied. The system stack also loads in the controller and the RDC device is started in a static mode with its transceiver disabled. The RDC may first be configured to operate in a single cell environment and requires some basic setup requirements as will be understood by those skilled in the art.

[00174] The server places the game into a particular configuration mode where it can set the RDC for auto-discover mode, or may choose to manually configure parameters related to the RDC's operation. If the server places the RDC into auto-discovery mode, the RDC generates a random value for its RDC ID and its password, which is then passed back to the server.

[00175] If the server chooses to manually setup the RDC, the server may supply the RDC ID and password. The server may also send the network topology and preferred channels the RDC will operate on. The central server may then send its site information to the game controller, which is also used by the RDC to allow access to the game. Once the server has configured the RDC, the server will enable the RDC and game.

[00176] The configuration information shown in the table immediately below may be used for RDC provisioning.

Site ID	0x0100	Generic value for a single cell RDC.
RDC ID	0x1234	Arbitrary value
C-Superframe Length	32	2.5 second superframe period for PDK® wakeup
Superframe Length	16	16 slots per superframe
Proxense Network Identifier	Proxense	Defines system as a Proxense system
Proxense Network Format		
Network Type	0	Single Cell
Beacon Source	0	RDC
Broadcast Flag	1	Broadcast
Timeslot Select	1	802.15.4 timeslots

[00177] In this configuration of a standalone RDC (without a site identifier): the site ID is set to 0 because this is a single cell RDC and no site information is required; the RDC ID is arbitrarily selected; the c-superframe length is set to 32 superframes indicating to the PDK that it needs to wake up once every 32 superframes in superframe 0 to exchange information with the RDC to remain associated; the superframe length is set to 16, which may be the standard value for a superframe in a particular system; the network identifier allowing a PDK to understand the beacon is from an enabled RDC; and the network format indicates one or more of several parameters (e.g., the network type indicates to the PDK that it is a single cell network – indicating to the PDK no other RDC is associated with this RDC and therefore no other RDC should be attempting access on this channel, the beacon source indicates to the PDK that the beacon is from an RDC and not a CRDC device, the broadcast flag indicates to the PDK that the message is being broadcast from the RDC, the timeslot select field indicates that a PDK should use

IEEE 802.15.4 beacon-based handshaking with the RDC). The RDC then scans all channels (or preconfigured channels) to determine if any other IEEE 802.15.4 or client devices are present or if any other interference is found.

[00178] With the pre-configured information, the RDC then begins beacon transmission on the least interfered channel with a c-superframe count, superframe count, and the information located in the table immediately described above.

[00179] Now, as shown in Figure 25, in standalone mode, the RDC will continue to transmit beacons on every superframe. The information in the table immediately described above may be transmitted along with the superframe count in every superframe to allow the PDK to configure and synchronize with the system. When the superframe count is the superframe length minus one, the superframe count will start counting from 0 for the next c-superframe.

[00180] At the end of each beacon transmission, a frame check sequence (FCS) may be appended as part of the IEEE 802.15.4 physical layer. The FCS provides protection for the data carried in the frame. Because the beacon may not occupy the entire frame (or timeslot), hashed lines are shown indicating additional idle time between the FCS and IFS. The RDC maintains the beacon transmission until the RDC is disabled or power is removed. At this point in the sequence of operations, there are no PDKs registered with the RDC, so no PDK can gain access without registering and receiving authorization from the RDC.

[00181] Again referring to the casino game example described above, a player with a

PDK that has not yet been registered to the property enters the RDC cell. The PDK is in battery save mode and periodically wakes up looking for a network. As shown in Figure 26, the PDK starts in a deep sleep state. The wakeup timer eventually expires, causing the PDK to enable and tune its receiver. The PDK then monitors the channel that it tuned to for a period of one 17 timeslots (one superframe plus one slot), or approximately 83 milliseconds. The 17 timeslot limit is based on a superframe of 16 timeslots, and the fact that the PDK, upon initial reception, could miss the beginning of a beacon. The additional slot provides the overlap necessary to guarantee reception of a beacon if one is present.

[00182] If no beacon is detected, the channel number is incremented (modulo 16) and the PDK resets its wakeup timer and returns to deep sleep mode. If a beacon is detected, the PDK checks for a network ID and if one is not found, it again increments the channel number, resets its wakeup timer, and returns to deep sleep mode. If the network ID is detected, the PDK attempts to establish a communications link with the RDC. At this point, the PDK has found a single cell network on channel 1 with an RDC ID of 0x1234, and the RDC is in broadcast mode indicating that it is attempting to gain the attention of any PDKs in the local proximity.

[00183] Now referring to Figure 27, in which an authorization denial handshake is shown, the RDC broadcasts its beacon with the information as described above. The PDK detects the beacon in broadcast mode, determines the network configuration and RDC ID and returns a PDK location response with the RDC ID and PDK ID included. The RDC detects the response from the PDK and alerts the central server that a PDK

with a public ID of 0x9876 (arbitrary) wants to attach and enable the game for play. In the meantime, the RDC may immediately respond back to the PDK indicating that the PDK should wait for authorization. This keeps the PDK responding to beacons as defined by the fields located in the beacon until the beacon is no longer present (i.e., the PDK is no longer in the RDC cell), or until a response is returned by the RDC.

[00184] The central sever, in conjunction with the system stack, may then choose to not recognize a particular PDK's public ID that has not yet been registered to the property. The RDC continues to output its beacon. Upon the next wakeup and PDK location response from the PDK, the RDC detects the PDK ID and, within its database, looks up the authorization parameters for this PDK. It determines that authorization has been denied and sends an "authorization deny" command to the PDK. In the case that a particular PDK is not recognized or not authorized, a notification may sent to a staff member of the property to register a user of the PDK, and/or, in one or more embodiments, one or more machines may be used to prompt the user to register with the property.

[00185] The PDK temporarily stores the RDC ID in its local memory with a flag indicating that it shall no longer respond to this RDC ID. The PDK may then go back into battery save mode and periodically scans all channels as previously described above with reference to Figure 26.

[00186] Still referring to Figure 27, because the PDK may not constantly be aware of its geographical location, the PDK may continue to monitor each channel and decode each beacon. Eventually, the PDK returns to the channel that the RDC is still

transmitting beacons on, decodes the beacon information including the RDC ID, and determines that it is not to respond.

[00187] Further, the PDK may maintain the RDC ID in its local database until the beacon is no longer present during scanning, at which time the RDC ID is removed from the database. The period of time that the beacon is absent before removing the RDC ID from the database may be determined during prior system testing.

[00188] Assuming the RDC beacon is absent for a given period of time indicates to the PDK that the PDK has left the RDC cell. Upon the next detection of that RDC beacon, the PDK may again attempt to gain access to the RDC as shown in Figure 27. The difference this time is the PDK ID is in the RDC's local database and the RDC may deny authorization without alerting the host system. The PDK may then operate as previously described after authorization has been denied.

[00189] In one or more embodiments, once a host system grants authorization for the PDK to operate within the property, then one or more different scenarios may exist. In one scenario, the RDC may transmit the PDK ID as part of the beacon transmission, alerting the PDK that the RDC wants to communicate, and the PDK may then respond with a PDK location response. In another scenario, the PDK returns to the RDC cell, and after detection of the beacon (with or without the PDK ID), it returns the PDK location response. In either case, after the RDC detects the PDK location response with the PDK's public ID, the RDC then issues a link request attempting to initiate a link between the RDC and PDK. Figure 28, for example, shows a handshake between the RDC and PDK for a PDK authorization grant.

[00190] As shown in Figure 28, the RDC may broadcast the beacon on every superframe. Although not shown, the superframe counter value is also included, which the PDK may use for battery conservation. The beacon may be broadcast in one of more different methods. The system may have just authorized a PDK and the beacon includes the PDK's public ID for a period of time or, in another method, the beacon may be transmitted without the PDK's public ID. As described above, if the PDK is in the RDC cell and has deactivated its response, when the PDK detects its ID in the beacon, it may reactivate its response to the RDC and transmit both the RDC ID and PDK public ID in its PDK location response.

[00191] If the PDK has just re-entered the RDC cell and detects the RDC beacon (with or without the PDK's public ID), the PDK may again respond with the RDC ID and its own PDK public ID. The RDC may then detect its RDC ID and the PDK public ID and immediately sends a link request to the PDK with both its RDC ID and the PDK's public ID indicating it wants to initiate a link with the PDK. The PDK may detect the request and respond with a link grant with both IDs included. The RDC and PDK may enter into association mode and then provide data exchange on a periodic basis insuring the PDK remains in range of the RDC. This periodic data exchange may occur based on parameters previously described above. Interleaved between the data exchange may be beacons that other PDKs may use to access the RDC. Eventually, the RDC may terminate the data exchange based on inactivity, as determined by the server, or as based on the PDK leaving the RDC cell, in which case the RDC realizes the PDK is no longer in range.

[00192] Further, it is noted that due to radio interference issues that might occur in wireless systems, the RDC and PDK may not relinquish the link based on the lack of a single data exchange. Because the RDC is not necessarily battery limited, the RDC may continue to monitor all timeslots in a superframe with the exception of those frames it transmits on. In contrast, it is noted that a PDK is likely battery limited and therefore may need to intelligently choose when to receive and transmit.

[00193] In the case the RDC and PDK lose communications during the predefined period they are attempting to communicate, both devices may have equal knowledge of such an event. Because the PDK is battery limited, the PDK may try on the next available timeslot to regain synchronization with the RDC. After a period of time in the RDC, or a predefined number of attempts by the PDK, the link may be considered lost.

[00194] Referring again to the casino game example, in one or more embodiments, an enabled single cell game facilitates multi-player access via the central server. Individual players may consecutively play the game provided they have the appropriate PDK, or in some instances, multiple players may be able to simultaneously play the game. The RDC allows for simultaneous multi-player access, so long as the central server supports and authorizes such play.

[00195] In the case where multiple PDKs may simultaneously access an RDC, the RDC may provide superframe coordination information to the PDKs to interleave them in a manner to avoid contention between RDC and PDK communications. For example, as shown in Figure 29, the RDC may assign a superframe and timeslot count to each PDK accessing the RDC. Through link setup and data exchange, the RDC may direct the

PDK to use a specific superframe and timeslot (or multiple superframes and timeslots) for periodic data exchange. By using such a technique, the RDC may alter the wakeup superframe for each PDK and may efficiently distribute them so as to reduce contention between the PDKs. Because the PDKs are given a specific superframe and timeslot (or superframes and timeslots), the PDK is required to wake up during that superframe(s) and timeslot(s) to communicate with the RDC. This technique, in turn, may greatly extend PDK battery life.

[00196] Now referring to Figure 30, it shows a configuration in which multiple games operating as single cell RDCs are co-located in close proximity with overlapping RDC cell coverage. In such a configuration, each RDC **200**, **202** may not be aware of the presence of the other RDC **200**, **202** but a PDK **204** that resides in the area of overlapping coverage may detect the presence of both RDCs **200**, **202**. A technique of restricting or allowing PDK access to one or more of the RDCs **200**, **202**, and the technique of enabling game play may depend on the system stack for that specific configuration.

[00197] In a configuration where multiple RDCs are co-located without the knowledge of each other, and where a PDK is registered to both RDCs, a technique of determining and gaining access to each RDC may be enforced. There are one or more possible scenarios that may occur. For example, in one case, a player may desire simultaneous access to a game and another device, such as a drink or food purchase device, with both being physically located near each other and without disrupting the game play. In another case, a player may be registered to multiple RDCs, but wants to associate with one RDC at any given time.

[00198] In addition to an RDC granting permission to the PDK for access, the RDC may also dictate to the PDK the number of simultaneous associations allowed. The purpose of defining the number of associations permitted may reduce the possibilities that the PDK can simultaneously associate with and enable two or more RDCs within close proximity of each other. This may prevent unauthorized use of a player's PDK on adjacent enabled devices, thereby disallowing a player from using another player's identity. The capability of configuring the number of associations for a particular RDC may be implemented in a system stack and controlled by the attached controller's application.

[00199] Referring again to the case where a player desires simultaneous access to a game and another device, a PDK may be capable of associating to multiple RDCs based on the physical limitation of the maximum number of simultaneous connections the PDK can handle and based on the number of associations the RDC permits.

[00200] Further, it is noted that under the conditions the PDK is associated with more than one RDC, the PDK may relay information back to each RDC indicating its timing relative to the other RDC. This information may be important in the event a single PDK is associated with more than one RDC because the clock frequency error between the RDCs may cause eventual timing drift that will eventually cause timeslot and superframe overlap and prevent the PDK from communicating with both units on a periodic basis. This situation is also noted: where two PDKs are associated with the same RDC and each PDK is also associated with a different second RDC. Additionally, each of the second RDCs may also have other PDKs associated with them that are also

associated with even different RDCs. Eventually, such an uncoordinated system may appearing like a mesh network. A system of such complexity may require a CRDC to be used to address synchronization issues.

[00201] As to the case where a player may be registered to multiple RDCs, but wants to associate with one RDC at any given time, there may one or more techniques that may be employed to control how a PDK associates with a specific RDC. In one way, a PDK is associated with a single RDC. Using this technique, the PDK may attempt to associate to other RDCs, but the other RDCs will deny association through the back-end central server, causing the PDK to ignore the other RDCs as previously described above. It is noted that such a technique may eliminate a cell size issue, where the cell must be constrained to prevent other RDCs the PDK is registered to from accessing the PDK.

[00202] In another technique for directing a PDK to communicate to one RDC in a configuration where multiple RDCs exist of which the PDK is registered to, by significantly reducing the RF power level from the RDC and providing this information along with a request for the PDK to reduce its RF power, a close proximity communications channel may be created. The close proximity communications channel may then operate as if a single cell network exists. More particularly, if the RDC is configured to have a reduced RF power output, the RDC's cell boundary shrinks causing the PDK to have to be within closer proximity of the RDC to receive a beacon from that RDC. If, in turn, the RDC indicates in the beacon that it is at reduced RF power, the PDK is aware that the RDC is in extremely close proximity. In addition, if the beacon includes a command to instruct the PDK to reduce RF power, the chance of surrounding

RDCs receiving a response or interference from the PDK may be minimized. When the communications channel is terminated and the PDK no longer sees the beacon from that RDC, the PDK may readjust its RF power level to normal levels for a larger cell coverage area. Such dynamic RF power level adjustment may be implemented in the system stack.

[00203] Thus, in one or more embodiments, there exists a scheme to dynamically adjust a transmission power and/or reception sensitivity of a wireless reader device along with an ability to command a client device to do likewise to permit both cell coverage and client device response area programmability. This may enable the dynamic tracking of transient client devices within and through the cell's extended or default coverage area with full power and sensitivity at both ends, while concurrently allowing the association of a particular client device in close proximity to the reader device for command and control of an application or service during a session. Those skilled in the art will note that by dynamically varying a size of a cell in which a secure transaction takes place between a PDK and an RDC (or in which a PDK accesses an application via an RDC), at least some level of security may be achieved in that eavesdropping may be prevented. Moreover, unnecessary and potentially unsafe propagation of a wireless signals beyond a certain distance may be avoided.

[00204] For example, a plurality of PDKs may be located in a default wireless coverage range of an RDC. This default wireless coverage range may represent a cell of the RDC at full power. As the plurality of PDKs enter and exit the RDC's cell, the RDC reports corresponding location tracking information back to, for example, a central server. When one of the PDKs requests access to an application secured by the RDC, the

RDC may follow by reducing its RF power and commanding the requesting PDK to also lower its RF power, thereby in effect requiring that the requesting PDK be "drawn in" to the RDC in order for the PDK to access the application. It is noted that while the RDC may communicate with the requesting PDK via low power RF signals, the RDC may continue to maintain its default wireless coverage range for tracking other PDKs. When the requesting PDK is moved away from the RDC or the session is otherwise terminated, both ends return to their default full RF power settings.

[00205] As described above, reception sensitivity of the RDC and/or PDK may be changed as part of a cell size variation technique in accordance with one or more embodiments. Reception sensitivity may be adjusted using an RF attenuator (e.g., a step, variable, or programmable RF attenuator) that is either specific to a receive path or common to both receive and transmit paths. It is noted that even if the attenuator is common to both receive and transmit paths, transmit power may be independently controlled. Further, in one or more embodiments, a separate attenuator may be used to allow for independent control of transmission power and reception sensitivity.

[00206] To determine how much to adjust the size of a wireless cell without severing a wireless connection between an RDC and a PDK, one or more of various metrics may be used. For example, in one or more embodiments, a signal strength of the PDK may be monitored to determine by how much to power down a transmission power of the RDC and/or the PDK. If the signal strength is determined to be relatively strong, then the RDC may cause a reduction in transmission power that is greater than if the signal strength were detected as being weak. Conversely, if the signal strength is detected as being

weak, the RDC may lower transmission power by a small amount or not at all. Instead of or in addition to relying on signal strength, a bit error rate may be assessed to determine by how much to power down the transmission power. For example, if the bit error rate of communications between the RDC and PDK is determined to be low, then the RDC may lower transmission power by an amount greater than if the bit error rate was determined to be relatively high.

[00207] Further, as described above, the transmission power and/or reception sensitivity of either or both of an RDC and a PDK may be adjusted. In one or more embodiments, only a transmission power of the PDK may be adjusted. This may done to, for example, "bring in" the PDK and reduce the likelihood of that PDK interfering with other RDCs. In one or more other embodiments, the transmission power of both the RDC and the PDK may be adjusted in an effort to draw in the PDK to the RDC. In still one or more other embodiments, in addition to or instead of adjusting transmission power, reception sensitivity of either or both of the RDC and the PDK may be changed.

[00208] Moreover, in one or more embodiments, an RDC may have multiple wireless transceivers, whereby at least one of the transceivers is at full power for PDK location tracking purposes, while one or more of the other transceivers are used to establish adjustable wireless cells for particular associations with PDKs. For example, in the case of an ATM machine having an RDC, the RDC may carry out a secure transaction with a PDK in an adjusted wireless cell, while at the same time, casting a broader wireless cell to monitor and identify one or more PDKs around the transacting PDK. In such a manner, for example, a security measure may be implemented by which

the RDC can identify individuals behind a transacting user. Further, as an added or alternative security measure, transmission power may be adjusted dependent on a sensitivity of the type of data requested to be exchanged in a particular transaction. Such data sensitive transactions may be conducted at low power with additional security measures such as password entry or biometric input.

Application Utilizing Multi-Cell Coordination

[00209] The following describes a system architecture and operation of a system within, for example, a casino application. Referring to Figure 31, a CRDC (not shown) and multiple RDCs (shown, but not individually labeled) are distributed throughout a casino floor. In such embodiments, a single CRDC generates a cell **210** that provides ubiquitous coverage of the entire floor. On the left side of Figure 31, multiple RDCs (shown, but not labeled) provide overlapping cell coverage and blanket the casino floor and gaming table area **212** all the way to an entrance of the casino with continuous wireless service coverage. These RDCs may be dedicated to PDK location tracking, allowing the casino operator to know where a player carrying his/her PDK is geographically located on the floor. These RDCs may be mounted in the floor or ceiling, creating, for example, relatively symmetrical cells.

[00210] Another set of RDC cells (shown, but not labeled) are shown to exist in the right side of Figure 31 and are integrated in gaming machines (shown, but not labeled) within an electronic gaming area **214**. The cell orientation for these RDCs is more oblong and focused at players that are within close proximity and in front of the electronic gaming machines, noting that cell orientation and shape may be set according

to antenna position and/or configuration. The cells extend outward towards the center of the isle to detect the presence of a player that may be walking by. Toward the lower right part of Figure 31 is a registration cell **216** that sits at a registration desk (shown, but not labeled) where a player may register and acquire a PDK the first time the player enters the casino. The registration cell **216** may be smaller in size to enable local communications between the RDC and PDK without allowing external RF monitoring devices to capture and record the interaction between the devices.

[00211] It is noted that in Figure 31, a PDK **218** that is currently out of the range of all RDCs, but still in range of the CRDC. This represents a PDK carried by a player, which is being used to track the player's position and provide additional services. Such services are further described below.

[00212] Further, still referring to Figure 31, there is a central server **220**. The central server **220** may contain a player's financial information (credit card numbers, gambling limits, and other information related to a player). In addition, the central server **220** may be physically wired (not shown) to all RDCs and/or CRDCs located throughout the casino.

[00213] Although not shown in Figure 31, within the PDK location tracking system, RDCs may be gambling tables that also have RDCs embedded within the table itself. A representative gambling table is shown in Figure 32.

[00214] As shown in Figure 32, a gambling table **230** has RDCs **232**, **234**, **236**, **238**, **240**, **242**, **244**, **246** embedded within it. RDC **246** may be a dealer RDC that has a cell

geometry covering the dealer's area, allowing the dealer to freely move around in this area. There are an additional RDCs **232**, **234**, **236**, **238**, **240**, **242**, **244** that are located at each player position. Each of these RDC cell's coverage areas are oblong and are directed to where the player would be sitting/standing. It is noted that each player position's RDC **232**, **234**, **236**, **238**, **240**, **242**, **244** allows for some coverage of the region directly behind each player position, allowing the RDC **232**, **234**, **236**, **238**, **240**, **242**, **244** to report back through the system the presence and identity of anyone behind the player. The RDC cell's coverage areas may be minimized to cover the area where a dealer or player may be located relative to the table. Those skilled in the art will note that the actual cell footprints may vary from those shown in Figure 32. Utilizing distributed RDCs with directional, highly attenuated, antennas allows the casino operator to know the location of both dealers and players, and the amount of time they remained at the table.

[00215] The CRDC, PDK location tracking RDCs, and gambling table RDCs, may interoperate in a system such as that shown in Figure 33. Figure 33 shows a graphical representation of the sequence of events that may occur when a c-beacon is transmitted in, for example, a casino application. As shown in Figure 33, first, a CRDC **250** transmits the c-beacon to all RDCs and PDKs (shown, but not labeled) within the CRDC's cell radius. All of the RDCs and PDKs setup and synchronize their timing to the beacon. Next, each PDK, in its appropriate timeslot, transmits a PDK location response ID. Any RDC that is in the vicinity of the PDK's response receives the PDK location response ID and logs specific information related to the reception. Then, each

RDC packetizes the information received from the PDK and, through a wired back channel, relays the information to a central server **252**. The central server **252** may then utilize this information to indicate to an operator, by either graphical or text format, the geographic location of each player.

[00216] Representing the flow in a different manner, the interactions for a single PDK is shown in Figure 34. In addition to providing location tracking information, when the PDK outputs a PDK location response ID, certain events may occur from an RDC based device. In the event the RDC based device is an electronic game, via the central server, the electronic game may entice the player over to it by flashing information on the screen related to that specific player. In one example, an electronic gaming machine may offer the player a free game, gaining the player's attention and ultimately enticing the player to play the game. In order to identify the player, further steps may be taken between the PDK and the RDC that are described below.

[00217] In the event the RDC device is used for location tracking, it may perform further interrogation of the PDK to determine whether the PDK is legitimate. A more detailed description of such interrogation is provided below.

[00218] Now referring to Figure 35, it shows two CRDCs with overlapping cell coverage, but not to the point where each CRDC can see the other CRDC. As shown in Figure 35, the CRDC cells are non-uniform in nature due to obstructions blocking the transmit radio path. The CRDC cell overlap may cause a number of RDCs to be in each CRDC cell. It is envisioned that other CRDCs may overlap in the same region if they are placed above and below the RDC micro-cellular structure. In this case, for example, up

to 4 channels may be occupied just for CRDC beacon transmission.

[00219] Due to the possibility of interferers in the coverage area of the CRDC, the central server may manually configure the CRDC, or the central server may also instead or additionally have the capability to auto-configure. In the case the central server performs manual configuration, upon initial installation, power up, and provisioning, the CRDC is configured to remain in a dormant state until the central server interacts with the device and instructs it to perform specific tasks. The central server may first instruct the CRDC to enable the receiver, scan all channels, and report back the findings of each channel. When the CRDC scans each channel, it collects signal quality metrics and any IEEE 802.15.4 radio transmissions. The operator of the central server may then analyze all of the signal quality metric information and any IEEE 802.15.4 framing information to determine the best channel the CRDC should transmit its beacon on. Once determined, the operator at the central server may command the CRDC to store the specific channel that it will transmit on and enable it to begin transmitting. The operator may then select the next CRDC and perform the same operations, until all CRDCs have been configured in the network.

[00220] In an automatic configuration mode, the CRDC scans each channel and collects signal quality metrics and determines if other IEEE 802.15.4 devices (including another CRDC) are present. The CRDC may then select the quietest channel to begin its beacon transmission on. Further, it is noted that it may be recommend that initial auto-configuration of a CRDC occur when there is a single CRDC present. This recommendation is based on the fact that the CRDC may have overlapping coverage with

another CRDC as shown in Figure 35, but the CRDC is not aware of the overlap, causing two CRDCs to transmit their beacons on the same channel. Eventually, due to potential timing inaccuracies in the CRDCs, they may overlap and become direct interferers to RDCs and PDKs in the overlapping area. An exception to this recommendation is when the system is configured to allow the CRDC to report back the channel that it occupies (or intends to occupy) to the central server, and the server can then analyze the CRDC channel lineup on all CRDCs and reassign a channel for any given CRDC.

[00221] Once a channel has been assigned and stored in a local non-volatile memory of the CRDC, upon next power up, the CRDC scans all channels again and return to their last assigned channel provided that it is not occupied by an interferer or by another CRDC beacon. In such a case, the CRDC may have to again go through the initialization process.

[00222] Although a synchronized system may lead to higher throughput and may possibly lead to better battery life, in one or more embodiments, it may not be necessary for CRDCs to be synchronized. Because each CRDC operates on a separate channel, there may be no timing-specific consideration that needs to be addressed between CRDCs. Instead, a concern may relate to how the PDK aligns to multiple unsynchronized CRDCs. From a PDK location-tracking standpoint, the PDK may be required to lock to a single CRDC beacon. The CRDC beacon will indicate to PDKs what other channels a CRDC may be located on. The PDK may not need to attempt receiving from any other CRDC, provided the signal quality metrics for the current CRDC it is monitoring has sufficient signal quality to receive error free data. In the case

the signal quality degrades, the PDK may then periodically switch to other channel(s) to determine if a better signal quality can be obtained. If a better signal quality is determined to be on an alternate channel, the PDK may then immediately switch to the alternate channel, provided it is not in association with an RDC at that instance in time. If the PDK has begun association to an RDC, the PDK may have to attempt to finish the association before switching to the alternate channel. It is noted that once a PDK is in association with a RDC, the PDK is no longer required to monitor the CRDC beacon, until the association ends between the devices by releasing the link or by the PDK leaving the RDC cell.

[00223] When an RDC is powered up for the first time, the RDC may not be aware of the network it belongs to or its configuration within the network. The RDC may default to a single cell configuration. For this reason, RDCs placed in a CRDC cell configuration may by default remain in a dormant state upon its first initial power up in the network. This may allow the central server to configure any specific information related to the network into the RDC prior to operation. Some of this information may include, for example, the site ID, a local RDC ID, and other parameters related to the wireless transmission protocol. The site ID is important, because the property owner may not want their RDCs to become associated with another property; thus, the RDC should synchronize to beacons transmitted with that site's ID. The RDC ID is used in communication between a PDK and RDC; hence, there should be one RDC ID per RDC device in the network. Other application-dependent parameters may include how the unit operates when associated with a PDK and whether the RDC sends data back to the server

when data is ready, or if the server must poll the RDC for the information. The central server may then command the RDC to enable its receiver and scan all channels to determine the signal quality of each channel and which CRDCs may be received by the RDC. The operator of the central server may allow the RDC to automatically select which CRDC Beacon to lock to, or can command the RDC to select a specific CRDC beacon. After reviewing the channel list for signal quality, the system may then command which channels the RDC can use for alternate channels for RDC-PDK communications, or the system may command the RDC to automatically select the alternate channels. The system may then place the RDC in operation mode, and the RDC then tunes to the selected CRDC beacon channel and remains there listening for CRDC beacons and any PDK that sends a PDK location response ID. While receiving the c-beacon, the RDC may configure its timeslot information similar to that described above. This defines the superframe structure as well as defining which timeslots (odd or even) the RDC is permitted to communicate with a PDK on the beacon channel.

[00224] In the background, on the alternate wireless link described above with reference to Figure 9, the RDC may continue to scan the alternate channels, updating its list of clear channels. This updated list may then be used when a RDC determines it wants to extend its communication with a PDK in association mode and selects which channel that communication will occur on. The RDC, in operational mode, may perform frame and slot alignment to the CRDC and listen for a PDK location tracking response. On a periodic basis, the RDC may send information back to the central server indicating that it is still operational and indicating the status of the communications channels (e.g.,

CRDC beacon, alternate channels).

[00225] In one or more embodiments, a registration RDC may be used to initially enable and to configure a PDK. The registration RDC may have a small cell coverage area by design, measured, for example, in inches. This may require that the unregistered PDK must be in extremely close proximity, e.g., placed on the registration RDC housing, to communicate with the registration RDC, reducing the likelihood of RF eavesdroppers gaining access to PDK setup information.

[00226] The registration RDC may be directly connected to a central server. In addition to specific security features, the registration RDC installs and configures service provider information located on the central server (described above with reference to Figures 6 and 7). Such information may include the service provider ID, secret key, and other parameters that the service provider wants to designate for access within their network. These other parameters may vary in size in the PDK and may be defined by the host system to meet the needs of the property. Information transferred to a PDK may include, for example, the service provider site ID, the service provider's assigned PDK ID, the service provider's secret service ID, the service provider's secret key, and service provider specific access information.

[00227] Now describing an example of an operation in accordance with one or more embodiments, once a system has been installed and properly provisioned, a rated player may walk into the casino. They are greeted by a host and walked over to the registration desk, where the player's information, already in the central server, is linked to a PDK that is given to the player and assigned with specific privileges. The player places the PDK in

their pocket and begins to walk throughout the casino. Once the PDK leaves the registration cell, the PDK enters discovery mode and scans the channels for a c-Beacon. If the PDK does not locate the c-beacon, it continues to scan for an undetermined period of time until it either goes into battery save mode or finds a c-beacon.

[00228] Once the PDK finds a c-Beacon, the PDK determines if the c-beacon is a particular type of network and the site ID is in its local service provider database. If the site ID is not in the database, the PDK ignores that c-beacon and keeps looking for other c-beacons on other channels until one is found that is in its local database. Once a valid c-beacon containing a site ID that is in the PDK's local database is found, the PDK extracts the CRDC channel availability flags and checks the other channels in the CRDC channel availability list. The PDK then determines which CRDC has the best signal quality metrics. The PDK switches to that channel and begins receiving c-beacons. The PDK extracts the CRDC and network configuration information as described above. This information may define the framing structure and how the PDK should operate within the network. The PDK then applies the c-beacon parameters to its radio transceiver parameters, configuring the sleep interval and response superframe and timeslot information. Because the PDK has just received a c-beacon, the PDK is now aware of the current superframe count. The PDK then configures its timer to wake up just prior to the expected superframe count that it may communicate on.

[00229] Now also referring to Figure 36, when the sleep timer expires, the PDK may wake up, listen for a specific c-beacon, and verify the superframe count. It then waits a predetermined period of time for its slot to be available and performs CSMA-CA, and if

no other device is attempting to respond, it responds with its PDK location tracking response. If another device was detected on the channel, the PDK may then reset its timers and wait for the next predefined superframe and timeslot to wake up and attempt again.

[00230] It is noted that a PDK in accordance with one or more embodiments may be powered by an internal battery of, for example, a type commonly used to power small electronic devices such as watches, calculators, and mobile computing devices. The power of such a client device battery is consumed when the PDK is active. In an effort to reduce and/or minimize battery consumption, in one or more embodiments, the active time of a PDK as a percentage of total time may be reduced by management of transmission and reception times. For example, as described above, a network in accordance with one or more embodiments may be designed to configure time slots (e.g., frames), groups of time slots (e.g., superframes), and/or coordinating beacon superframes (e.g., c-superframes) in a manner such that a client device is caused to both listen and respond within specific time slots. Because these time slots are configured by the network, they may be precisely predicted, thereby allowing the client device to set a timer, return to sleep mode, and waken when a specific, time-slotted interaction is expected or required of the client device. Further, in one or more embodiments, because a network in accordance with one or more embodiments may implement programmable c-superframe lengths, an operator or system may individually tailor performance to maximize (or at least improve) battery life and/or minimize (or at least reduce) system inter-message latency without requiring access of the client device itself or physical

alteration of the client device.

[00231] When the PDK responds with a PDK location tracking response, every RDC within local proximity that can receive the response may log the response message in its database along with signal quality metrics and a timestamp. They will then send the information back to the central server. The response may be sent by the server polling the RDC or by the RDC if it has data to send. Once the central server receives the PDK information from one or multiple RDCs, the server may then determine if any further communication with the PDK is necessary. If, for example, the system wants to validate the PDK, it can perform a validation. The server may then send a command to a specific RDC to set up communications with a specific PDK and wait for a response from that RDC. Because the communication between the RDC and the central server may not be instantaneous, the RDC may have to wait for the next PDK location tracking response. After performing CSMA-CA, it may immediately instruct the PDK to switch to the alternate channel. If, during the CSMA-CA, the RDC detected another device on the channel, the RDC may wait for the next PDK location tracking response from that PDK and then re-attempt PDK channel reassignment. The PDK may then switch to the alternate channel, perform CSMA-CA, and send a link request to that specific RDC ID with its own ID included. The RDC, looking for the link request with its specific ID and a particular PDK ID, detects the request and then responds with a link grant. Further, the RDC may alert the central server of the link, and a data exchange occurs with information the server is interested in collecting by interrogating that PDK. After the data exchange occurs, the central server commands the RDC to terminate the link. The

RDC may then terminate the link, and the PDK may returns to the c-Beacon channel, re-synchronizing to the beacon, and begin monitoring for its timeslot. The PDK may then continue to send responses back to all RDCs in its immediate vicinity when its specific superframe count and timeslot are valid.

[00232] It is noted that the foregoing description detailing a process of PDK validation and interrogation relates to one or more embodiments. However, in one or more other embodiments, the central server may have also altered the service provider information within the PDK.

[00233] If, during the switch to the alternate channel for RDC to PDK communications, the PDK determines the channel is occupied or the PDK does not receive a link grant back from the RDC, the PDK may perform one or more additional attempts. If after all attempts, the PDK does not receive a response from an RDC, that PDK may return to the c-beacon channel, realign to the beacon, and then begin sending its PDK location tracking ID.

[00234] If the RDC was unable to receive the link request from the PDK on the alternate channel, for a predefined period of time, the RDC may flag the error and continue listening on the channel. If the same RDC is again instructed to establish communications with the same PDK, the RDC may choose to use a different alternate channel and redirect the PDK to the new alternate channel for communications.

[00235] Now referring to Figure 37, it shows a PDK wakeup and response flow in a CRDC coordinated system. For purposes of describing Figure 37, it is assumed that the

PDK has acquired system synchronization and has gone into the sleep mode after setting its timers to wake up on the next predefined superframe. The PDK remains in sleep mode until the wakeup timer expires and wakes up the PDK. The PDK then enables and tunes its receiver to the c-beacon channel and listens for the beacon for a predefined period of time. If no beacon is detected, the PDK checks for other CRDC channel available flags in its local memory. It then reassesses signal quality and beacons on the alternate CRDC channels.

[00236] After the PDK assesses the other CRDC channels and no beacon is found, the PDK goes back into rediscovery mode scanning all channels looking for a c-beacon. If no c-Beacon is found, the PDK then starts its deep sleep mode. In the event that other CRDC channels are present, the PDK assesses the signal quality of each channel and selects the best channel. The PDK then selects that channel and tunes to it listening for the CRDC beacon.

[00237] When the PDK receives the beacon, it checks all of the parameters associated with it including the superframe count. If the PDK determines the superframe count is not the correct one for it to wake up and respond on, it sets its internal sleep timer to wake up just before the next expected superframe it should respond to and returns to sleep mode. If the PDK determines that the beacon is on the PDK's expected superframe count, the PDK then stays awake, but stops listening until just before its expected timeslot. The PDK may then perform CSMA-CA to determine if the channel is busy. If the PDK determines the channel is busy, the PDK may again set its internal sleep timer for the next expected superframe and return to the sleep mode.

[00238] If the PDK finds the channel to be available, the PDK then transmits its location tracking response and waits for one additional timeslot for a response from an RDC. If the PDK receives a response from an RDC, it then performs the command sent by the RDC (e.g., to switch to the alternate communications channel). If the PDK does not receive a response from an RDC, the PDK may again set its internal sleep timer to wake up just before the next expected superframe it should respond to and then return to sleep mode.

[00239] As described above with reference to Figure 31, in one or more embodiments, an RDC may be located within an electronic game on an electronic gaming floor. Each game may have an integrated dual wireless link RDC, such as that described above with reference to Figure 9. The RDC may be used for PDK location tracking and PDK association. There are various approaches in integrating an RDC into an electronic game or other equipment housing. In one approach, shown in Figure 38, the integration of the RDC is from a physical perspective; no electrical connections exist between the RDC and the game. In this configuration, the RDC and electronic game need not even reside within the same enclosure; they coexist as two physically close, but separate, devices. They may not be connected in any way other than physical proximity. The purpose of placing them in close physical proximity is to allow the RDC to perform proximity detection for any player carrying a PDK that may be positioned near the front of the machine. In this configuration, each device (RDC and electronic game) may have separate connections to a central server (or an external data concentrator) used to connect both devices to a single wired connection back to the server. It is noted that the game

may operate autonomously, with the possible exception of responses to any commands sent to it by the server. In this case, the RDC may provide both proximity detection and association with PDKs.

[00240] Now also referring to Figure 39, it shows an example of a handshake that may take place from the time a player carrying a PDK is detected to the time the game is enabled for that player. For purposes of clarity, the CRDC is not shown in Figure 39. The handshake starts by the PDK detecting a c-beacon. Each time the c-beacon is detected on the expected superframe and timeslot, the PDK may send out a PDK location tracking response.

[00241] The RDC near the game detects the response and sends the PDK's information back to the central server. The server realizes the user is close to the game and may send a command back to the game instructing it to display a message for the player in an effort to entice the player to play. In this example, the player may see the message and sit down at the game and press a button to commence play. In turn, the game sends a message back to the server indicating that the button has been pressed. The server then requests the RDC to make a connection with the player's PDK. Upon the next c-beacon, the player's PDK responds and the RDC receives the response. The RDC then transmits back to the PDK to change to another channel for association mode to begin. It is noted that up until this time, the PDK was in tracking mode. The PDK then switches to the alternate channel indicated by the RDC and sends out a PDK link request with both the PDK ID and the RDC ID. The RDC detects the request and sends back a PDK link grant. The PDK and the RDC then exchange secure information to establish

trust, prior to establishing a secure link for validation of the PDK. The RDC may also lower its RF power and instruct the PDK to lower its RF power in order to enforce close proximity. Periodic data exchange may continue to between the RDC and PDK.

[00242] After the secure link is established, the RDC may report back to the central server that the link is established between the RDC and PDK. The central server may then send a command to the game to display a message, which the game then displays. The player may see the message on the screen and presses his PDK's button causing it to transmit this event over the secure link to the RDC. The RDC relays this information back to the server. When the central Server receives the button press message, it can enable the game so that the player may begin playing.

[00243] The handshake continues as shown in Figure 40. After the game has been enabled for the player to play, the server may then send a command to the RDC to start polling the player's PDK. The RDC then periodically polls the PDK and may have returned the responses of each poll back to the server, as shown in Figure 40.

[00244] Still referring to the example being described with reference to Figures 39 and 40, the player may continue to play the game for a while, then finishes and decides to leave. When the player exits the coverage area of the RDC near the game, the communications link is broken. The RDC attempts to poll the PDK, but receives no response. The RDC continues a few more times with no response. The RDC then reports back to the central server that the link was lost and the PDK is out of range. The central server then sends a message to the game to return it to an idle state so that another player can play, then requests the game to send back the player's game play information

(if not already obtained), which the server logs.

[00245] As described above with reference to Figures 39 and 40, a central server may be the communications medium linking an RDC to a game. It communicates with the game, tying the PDK to that game. If either device loses connection to the central server, game play may stay enabled.

[00246] Now referring to Figure 41, it shows an electronic game with an integrated RDC, internally connected to communicate directly with the game. Thus, all power and communication for the RDC may go through the electronic game. In this configuration, both the RDC and game reside within the same game enclosure where they jointly coexist. All information exchanged between the RDC and Bally Central Server must flow through the electronic game's controller and network interface. The purpose of placing them in the same enclosure allows the RDC to perform proximity detection for any player carrying a PDK® that may be positioned near the front of the machine.

[00247] At least one difference in the configuration shown in Figure 41 relative to the configuration shown in Figure 38 is that the game's internal controller may act to reduce the traffic loading on the back-end network and perform more local verification of the communications link between the PDK and the RDC. To illustrate a difference in interaction between these two configurations, reference is made to the handshake diagram shown in Figure 42. More particularly, Figure 42 shows a handshake that may take place from the time a player carrying a PDK is detected to the time the game is enabled for that player. For purposes of clarity, the CRDC is not shown in Figure 42. The handshake starts by the PDK detecting a c-beacon. Each time the c-beacon is

detected on the expected superframe and timeslot, the PDK sends out a PDK location tracking response. The RDC within the game detects the response and sends the PDK information back to a central server via the game's internal controller. The server is made aware that the user is close to the game and sends a command back to the game controller instructing the game to, for example, give the user a free game along with optionally displaying the user's name. The game then displays a message for the player in an effort to entice the player to play. The player may then see the message, sit down at the game, and press a button to commence game play. In turn, the game controller detects the button press and requests the RDC to make a connection with the player's PDK. Upon the next c-beacon, the PDK responds and the RDC receives the response. The RDC may then transmit back to the PDK a command to change to an alternate channel for association. The player's PDK then switches to the alternate channel indicated by the RDC and sends out a PDK link request with both the PDK ID and the RDC ID. The RDC detects the request and sends back a PDK link grant. The PDK and the RDC may then exchange secure information to establish trust, prior to establishing a secure link for validation of the PDK. The RDC may also lower its RF power and instruct the PDK to lower its RF power in order to enforce close proximity. Periodic data exchange may then continue between the RDC and PDK.

[00248] After the secure link is established, the RDC reports back to the game controller that the link is established between the RDC and PDK. The game may then display an instructional message for game play. The player may see the message on the screen and presses the player's PDK button, causing the PDK to transmit this event over

the secure link to the RDC. The RDC may then send this information back to the game controller. When the game controller receives the button press message, it can enable the game so that the player can begin playing.

[00249] The handshake continues as shown in Figure 43. After the game was enabled for the player to play, the game controller sends a command to the RDC to start polling the player's PDK. The RDC then periodically polled his PDK and had the option of returning the responses of each poll back to the controller, as shown in Figure 43.

[00250] Returning to the example described above with reference to Figures 42 and 43, the player may continue to play the game for a while, then finishes and decides to leave. When the player exits the coverage area of the RDC near the game, the communications link is broken. The RDC attempts to poll the PDK, but receives no response. The RDC may continue a few more times, with no response. The RDC then reports back to the game controller that the link was lost and the PDK is out of range. The game controller returns itself to an idle state so that another player can play and indicates back to the central server that the PDK is out of range. The server may then request the game to send the player's game play information (if not already received), which is then logged.

[00251] As described above with reference to Figures 42 and 43, in one or more embodiments, the game controller may become more involved in the RDC to PDK association, thereby potentially reducing the back-end system network's traffic loading relative to that experienced with the configuration where an RDC is electrically separate from the game controller. The game controller may also react faster to the user walking

out of range and may not require any response from the server in order to maintain the link. It is further noted that a broken link between the central server, game controller, and RDC may not result in any loss of any interaction between the RDC and the game controller.

[00252] While the invention has been described with respect to a limited number of embodiments, those skilled in the art, having benefit of the above description, will appreciate that other embodiments may be devised which do not depart from the scope of the present invention as described herein. Accordingly, the scope of the present invention should be limited only by the appended claims.

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CLAIMS

What is claimed is:

1. A method of facilitating data exchange, comprising:

assigning a first specific time slot for a first client device to wirelessly communicate with a fixed proximity-based reader device; and

assigning a second specific time slot for a second client device to wirelessly communicate with the fixed proximity-based reader device.

2. The method of claim 1, further comprising:

dynamically adjusting at least one of the first specific time slot and the second specific time slot.

3. The method of claim 1, wherein assigning the first specific time slot comprises:

masking a bit field of the first client device.

4. The method of claim 3, wherein the mask is wirelessly communicated to the first client device.

5. The method of claim 1, wherein assigning the first specific time slot is dependent on a class of at least one of a user associated with the first client device and a class of the first client device.

6. The method of claim 1, wherein assigning the first specific time slot is dependent on a network traffic load.

7. The method of claim 1, further comprising:

reassigning the first specific time slot to a third client device in response

to a detection that the first client device is unavailable.

8. An apparatus, comprising:

a physical, portable key device adapted to wirelessly communicate data with a fixed reader device when located in a wireless coverage area of the fixed reader device,

wherein the key device is arranged to communicate with the fixed reader device during a time slot determined based on a bit field stored in the key device.

9. The apparatus of claim 8, wherein the time slot is adjustable dependent on a mask applied to the bit field.

10. The apparatus of claim 9, wherein the mask is determined external to the key device.

11. The apparatus of claim 8, wherein the bit field represents an identification of the key device.

12. A system, comprising:

a fixed reader device operatively connected to a network device and having a first wireless coverage range within a second wireless coverage range; and

a portable client device arranged to wirelessly communicate data with the fixed reader device when the client device is within the first wireless coverage range,

wherein a time slot during which the client device communicates data with the fixed reader device is determined based on synchronization information received by the client device.

13. The system of claim 12, further comprising:

a network device arranged to wirelessly broadcast the synchronization information in the second wireless coverage range;

14. The system of claim 12, wherein the client device is further arranged to store a bit field according to which the time slot is determined.

15. The system of claim 14, wherein the synchronization information comprises a mask for application to the bit field.

16. The system of claim 12, wherein the synchronization information is dependent on a traffic load in the system.

17. The system of claim 12, wherein the synchronization information is dependent on at least one of a class of a user associated with the client device and a class of the client device.

18. The system of claim 12, wherein the network device is further arranged to dynamically alter the synchronization information to modify the time slot during which the client device communicates with the fixed reader device.

19. The system of claim 12, wherein the time slot is determined based on a tier status of the client device.

20. A system, comprising:

a network device arranged to wirelessly broadcast synchronization information in a first wireless coverage range; and

a portable client device adapted to wirelessly communicate data with a

reader device when the client device is located in communication proximity of the reader device,

wherein the client device is arranged to receive data from the network device during a time slot determined based on the synchronization information.

21. The system of claim 20, wherein the client device is further arranged to transmit data to the network device during the time slot.

22. The system of claim 20, wherein the time slot is determined based on a mask applied to a bit field stored in the client device, and wherein the mask is wirelessly communicated to the client device as part of the synchronization information wirelessly broadcasted by the network device.

23. The system of claim 20, wherein the synchronization information is dependent on at least one of a user associated with the client device, a class of a user associated with the client device, a class of the client device, and a network traffic load in the system.

24. A system, comprising:

a network device configured to wirelessly broadcast synchronization information; and

a portable client device configured to wirelessly receive the synchronization information, the received synchronization information comprising information assigning a time slot during which the client device can receive data from the network device.

25. The system of claim 24, further comprising:

a reader device configured to proximity sense the client device, and

further configured to communicate data with the client device in accordance with the synchronization information.

26. A method of facilitating data exchange, comprising:

wirelessly broadcasting synchronization information to a portable client device, the synchronization information comprising information assigning a time slot during which the client device can receive data; and

wirelessly broadcasting data for reception by the client device during the time slot.

DYNAMIC REAL-TIME TIERED CLIENT ACCESS

ABSTRACT

Wireless client devices within a wireless network exchange data with other wireless devices during particular time slots determined by the network. More particularly, the system generates and wirelessly broadcasts synchronization information to the client devices, where the synchronization information contains individual masks to be applied to bit fields of individual client devices, where said time slots are determined in accordance with the masked bit fields. In such a manner, client devices can be coordinated to communicate with the system in a dynamic real-time tiered manner.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Filer:	Wasif H. Qureshi/Linda Carlson
Attorney Docket Number:	25000-12196
Filed as Small Entity	

Utility Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	75	75
Utility Search Fee	2111	1	250	250
Utility Examination Fee	2311	1	100	100
Pages:				
Claims:				
Claims in excess of 20	2202	6	25	150
Independent claims in excess of 3	2201	3	100	300
Miscellaneous-Filing:				

INTEL-1008
U.S. Patent 8,457,672

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**875**

Electronic Acknowledgement Receipt

EFS ID:	1421024
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	00758
Filer:	Wasif H. Qureshi
Filer Authorized By:	
Attorney Docket Number:	25000-12196
Receipt Date:	05-JAN-2007
Filing Date:	
Time Stamp:	19:08:41
Application Type:	Utility

Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	$875
RAM confirmation Number	879
Deposit Account	192555
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 1.16 and 1.17	

File Listing:

INTEL-1008
U.S. Patent 8,457,672

Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	12196_ADS.pdf	42380	no	4
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
2	Drawings	12196_Drawings.pdf	10511124	no	42
Warnings:					
Information:					
3		12196_Application.pdf	297312	yes	88

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	82
Claims	83	87
Abstract	88	88

Warnings:	
Information:	
Total Files Size (in bytes):	10859361

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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.

National Stage of an International Application under 35 U.S.C. 371
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.

INTEL-1008
U.S. Patent 8,457,672

Electronic Acknowledgement Receipt

EFS ID:	1421024
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
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Filer Authorized By:	
Attorney Docket Number:	25000-12196
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Time Stamp:	19:08:41
Application Type:	Utility

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Submitted with Payment	yes
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File Listing:

INTEL-1008
U.S. Patent 8,457,672

Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	12196_ADS.pdf	42380	no	4
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
2	Drawings	12196_Drawings.pdf	10511124	no	42
Warnings:					
Information:					
3		12196_Application.pdf	297312	yes	88

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	82
Claims	83	87
Abstract	88	88

Warnings:	
Information:	
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INTEL-1008
U.S. Patent 8,457,672

PTO/SB/06 (12-04)
Approved for use through 7/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD
Substitute for Form PTO-875

11/620,577

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY FEE ($)		OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))				75			
SEARCH FEE (37 CFR 1.16(k), (i), or (m))				250			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))				100			
TOTAL CLAIMS (37 CFR 1.16(i))	26	6	X$25=	150	OR	X$50	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	6 minus 3 =	3	X$100=	300		X$200=	
APPLICATION SIZE FEE (37 CFR 1.16(s))							
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))			N/A			N/A	
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	875		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(					N/A		OR	N/A	
						TOTAL ADD'T FEE		OR	TOTAL ADD'T FEE	

		(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 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(					N/A		OR	N/A	
						TOTAL ADD'T FEE		OR	TOTAL ADD'T FEE	

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

This collection of information is required by 37 CFR 1.16. 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 comp including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comr 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. I and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
11/620,577	01/05/2007	2811	875	25000-12196	42	26	6

CONFIRMATION NO. 9508

758
FENWICK & WEST LLP
SILICON VALLEY CENTER
801 CALIFORNIA STREET
MOUNTAIN VIEW, CA94041

FILING RECEIPT

Date Mailed: 01/30/2007

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. 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 mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. 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 (if appropriate).**

Applicant(s)

David L. Brown, Jupiter, FL;
Fred S. Hirt, Brookfield, IL;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This appln claims benefit of 60/760,362 01/06/2006

Foreign Applications

If Required, Foreign Filing License Granted: 01/30/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US11/620,577**

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

Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title

Dynamic Real-Time Tiered Client Access

Preliminary Class

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
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
11/620,577	01/05/2007	David L. Brown	25000-12196

CONFIRMATION NO. 9508

FORMALITIES LETTER

758
FENWICK & WEST LLP
SILICON VALLEY CENTER
801 CALIFORNIA STREET
MOUNTAIN VIEW, CA 94041

Date Mailed: 01/30/2007

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 and pay any fees required 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 applicant needs to satisfy supplemental fees problems indicated below.

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

- 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 with the missing items identified in this letter.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **$65** for a small entity

- **$65** Surcharge.

Replies should be mailed to: Mail Stop Missing Parts

INTEL-1008
U.S. Patent 8,457,672

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.

Tonesy Wyatt

Office of Initial Patent Examination (571) 272-4000, or 1-800-PTO-9199, or 1-800-972-6382
PART 3 - OFFICE COPY

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
11/620,577	01/05/2007	David L. Brown	25000-12196

CONFIRMATION NO. 9508

758
FENWICK & WEST LLP
SILICON VALLEY CENTER
801 CALIFORNIA STREET
MOUNTAIN VIEW, CA 94041

FORMALITIES LETTER

Date Mailed: 01/30/2007

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

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- **$65** Surcharge.

Replies should be mailed to: Mail Stop Missing Parts

INTEL-1008
U.S. Patent 8,457,672

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

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

Tovey Wyatt

Office of Initial Patent Examination (571) 272-4000, or 1-800-PTO-9199, or 1-800-972-6382
PART 1 - ATTORNEY/APPLICANT COPY

INTEL-1008
U.S. Patent 8,457,672

IN THE UNITED STATES

PATENT AND TRADEMARK OFFICE

APPLICANTS:	David L. Brown, Fred S. Hirt
APPLICATION NO.:	11/620,577
FILING DATE:	January 5, 2007
TITLE:	Dynamic Real-Time Tiered Client Access
EXAMINER:	not yet known
GROUP ART UNIT:	2811
ATTY. DKT. NO.:	25000-12196

MAIL STOP MISSING PARTS
COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

RESPONSE TO NOTICE TO FILE MISSING PARTS OF

NONPROVISIONAL APPLICATION

SIR:

Responsive to the Notice of Missing Parts dated January 30, 2007, received in the above-identified patent application,

☒ Enclosed are:

- ☒ a copy of the Notice to file Missing Parts;
- ☐ an original, signed Power of Attorney;
- ☒ an executed Declaration;
- ☒ payment in the amount of $65.00 for the
  - ☐ application filing fee;
  - ☐ fee for additional claims; and

RESPONSE TO NOTICE TO FILE MISSING PARTS OF APPLICATION

(continued)

☒ missing parts surcharge.

☐ Other: Application search fee

☒ Applicant claims small entity status under 37 C.F.R. § 1.27.

Respectfully submitted,
DAVID L. BROWN, ET AL.

Dated: March 6, 2007

By: /Greg T. Sueoka/
Greg T. Sueoka, Reg. No.: 33,800
Fenwick & West LLP
Silicon Valley Center
801 California Street
Mountain View, CA 94041
Tel.: (650) 335-7194
Fax: (650) 938-5200

25000/12196/DOCS/1702715.1

DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)		
☐ Declaration Submitted With Initial Filing OR ☒ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)	Attorney Docket Number	25000-12196
	First Named Inventor	David L. Brown
	COMPLETE IF KNOWN	
	Application Number	11/620,577
	Filing Date	January 5, 2007
	Art Unit	2811
	Examiner Name	Not yet known

I hereby declare that:

Each inventor's residence, mailing address, and citizenship are as stated below next to their name.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Dynamic Real-Time Tiered Client Access

(Title of the Application)

the specification of which

☐ is attached hereto

OR

☒ was filed on (MM/DD/YYYY) 01/05/2007 as United States Application Number or PCT International Application Number 11/620,577 and was amended on (MM/DD/YYYY) _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? Yes	No
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

2/22/07

2/22/07

25000/12196/DOCS/1685526.1

DECLARATION – Utility or Design Patent Application

Direct all correspondence to: ☒ Customer Number:	758	*OR* ☐ Correspondence address below	
Name			
Address			
City	State	ZIP	
Country	Telephone	Fax	

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR: ☐ A petition has been filed for this unsigned inventor

Given Name (first and middle [if any])	Family Name or Surname
David L.	**Brown**

Inventor's Signature: [signature] Date: 2/22/2007

Residence: City	State	Country	Citizenship
Jupiter	**FL**	**USA**	**USA**

Mailing Address: 17204 127th Dr N

City	State	ZIP	Country
Jupiter	**FL**	33478	**USA**

NAME OF SECOND INVENTOR: ☐ A petition has been filed for this unsigned inventor

Given Name (first and middle [if any])	Family Name or Surname
Fred S.	**Hirt**

Inventor's Signature: [signature] Date: 2/22/2007

Residence: City	State	Country	Citizenship
Brookfield	**IL**	**USA**	**USA**

Mailing Address: 3504 HARRISON

City	State	ZIP	Country
Brookfield	**IL**	60513	**USA**

☐ Additional inventors or a legal representative are being named on additional sheet(s)

25000/12196/DOCS/1685526.1

INTEL-1008
U.S. Patent 8,457,672

Electronic Patent Application Fee Transmittal

Application Number:	11620577
Filing Date:	05-Jan-2007
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Filer:	Greg T. Sueoka/Nubia Morad
Attorney Docket Number:	25000-12196
Filed as Small Entity	

Utility Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Late filing fee for oath or declaration	2051	1	65	65
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

INTEL-1008
U.S. Patent 8,457,672

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
		Total in USD ($)		65

Electronic Acknowledgement Receipt

EFS ID:	1572826
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	758
Filer:	Greg T. Sueoka
Filer Authorized By:	
Attorney Docket Number:	25000-12196
Receipt Date:	07-MAR-2007
Filing Date:	05-JAN-2007
Time Stamp:	17:09:54
Application Type:	Utility

Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	$65
RAM confirmation Number	652
Deposit Account	192555
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 1.16 and 1.17	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
1	Applicant Response to Pre-Exam Formalities Notice	12196_Notice_of_Missing_Parts.pdf	68318	no	2
Warnings:					
Information:					
2	Applicant Response to Pre-Exam Formalities Notice	12196_Response_to_NOMP.pdf	77071	no	2
Warnings:					
Information:					
3	Oath or Declaration filed	12196_declaration.pdf	88179	no	2
Warnings:					
Information:					
4	Fee Worksheet (PTO-06)	fee-info.pdf	8149	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	241717		

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.

New Applications Under 35 U.S.C. 111
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.

National Stage of an International Application under 35 U.S.C. 371
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.

New International Application Filed with the USPTO as a Receiving Office
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.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b)

I hereby appoint:

☒ Practitioners associated with the Customer Number **758**

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Assignee Name and Address:

Proxense, LLC
689 NW Stonepine Dr.
Bend, OR 97701

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record
The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Name	John J. Giobbi		
Signature		Date 1/31/06	Jan 31, 2006
Title	Managing Partner	Telephone	(541)382-5745

25000/01000/DOCS/1594189.1

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: David L. Brown and Fred S. Hirt

Application No./Patent No.: 11/620,577 Filed Date: January 5, 2007

Entitled: Dynamic Real-Time Tiered Client Access

Proxense, LLC, a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or

2. ☐ an assignee of less than the entire right, title and interest.

The extent (by percentage) of its ownership interest is _____%
in the patent application/patent identified above by virtue of either:

A. [X] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 018976, Frame 0486, or for which a copy thereof is attached and is concurrently submitted for recordation.

OR

B. [ ] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached and is concurrently submitted for recordation.

2. From _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached and is concurrently submitted for recordation.

3. From _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached and is concurrently submitted for recordation.

[ ] Additional documents in the chain of title are listed on a supplemental sheet.

[ ] Copies of assignments or other documents in the chain of title are attached.
[NOTE: A separate copy (*i.e.*, a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment has not been recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

March 9, 2007
Date

Greg T. Sueoka; Reg. No.: 33,800
Typed or printed name

(650) 335-7194
Telephone number

/Greg T. Sueoka/
Signature

Attorney for Applicants
Title

Electronic Acknowledgement Receipt

EFS ID:	1580624
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	758
Filer:	Greg T. Sueoka
Filer Authorized By:	
Attorney Docket Number:	25000-12196
Receipt Date:	09-MAR-2007
Filing Date:	05-JAN-2007
Time Stamp:	17:24:50
Application Type:	Utility

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	12196_POA.pdf	41607	no	1
Warnings:					

Information:					
2	Assignee showing of ownership per 37 CFR 3.73(b).	12196_37CFR_373b.pdf	37718	no	1
Warnings:					
Information:					
			Total Files Size (in bytes):	79325	

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.

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UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
11/620,577	01/05/2007	2811	940	25000-12196	26	6

CONFIRMATION NO. 9508

UPDATED FILING RECEIPT

758
FENWICK & WEST LLP
SILICON VALLEY CENTER
801 CALIFORNIA STREET
MOUNTAIN VIEW, CA94041

Date Mailed: 03/16/2007

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. 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 mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. 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 (if appropriate).**

Applicant(s)

David L. Brown, Jupiter, FL;
Fred S. Hirt, Brookfield, IL;

Power of Attorney: The patent practitioners associated with Customer Number 758

Domestic Priority data as claimed by applicant

This appln claims benefit of 60/760,362 01/06/2006

Foreign Applications

If Required, Foreign Filing License Granted: 01/30/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US11/620,577**

Projected Publication Date: 07/12/2007

Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title

Dynamic Real-Time Tiered Client Access

Preliminary Class

INTEL-1008
U.S. Patent 8,457,672

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

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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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).

INTEL-1008
U.S. Patent 8,457,672

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
11/620,577	01/05/2007	2811	940	25000-12196	26	6

CONFIRMATION NO. 9508

UPDATED FILING RECEIPT

758
FENWICK & WEST LLP
SILICON VALLEY CENTER
801 CALIFORNIA STREET
MOUNTAIN VIEW, CA94041

Date Mailed: 03/16/2007

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. 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 mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. 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 (if appropriate).**

Applicant(s)

David L. Brown, Jupiter, FL;
Fred S. Hirt, Brookfield, IL;

Power of Attorney: The patent practitioners associated with Customer Number 758

Domestic Priority data as claimed by applicant

This appln claims benefit of 60/760,362 01/06/2006

Foreign Applications

If Required, Foreign Filing License Granted: 01/30/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US11/620,577**

Projected Publication Date: 07/12/2007

Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title

Dynamic Real-Time Tiered Client Access

Preliminary Class

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.

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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.

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INTEL-1008
U.S. Patent 8,457,672

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APPLICATION NUMBER	FILING OR 371(c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/620,577	01/05/2007	David L. Brown	25000-12196

CONFIRMATION NO. 9508

758
FENWICK & WEST LLP
SILICON VALLEY CENTER
801 CALIFORNIA STREET
MOUNTAIN VIEW, CA94041

Title: Dynamic Real-Time Tiered Client Access

Publication No. US-2007-0174809-A1
Publication Date: 07/26/2007

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Pre-Grant Publication Division, 703-605-4283

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	David L. Brown et al.
APPLICATION NO.:	11/620,577
FILING DATE:	January 5, 2007
TITLE:	Dynamic Real-Time Tiered Client Access
EXAMINER:	Matthew D. Anderson
GROUP ART UNIT:	2618
ATTY. DKT. NO.:	25000-12196

CERTIFICATE OF ELECTRONIC (EFS-WEB) TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.8(a)(i)(C) from the Pacific Time Zone of the United States on the local date shown below.

Dated: April 28, 2008 By: /Jason E. Amsel/
Jason E. Amsel, Reg. No. 60,650

COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT
Under 37 CFR §§ 1.56 and 1.97-98

SIR:

Pursuant to the provisions of 37 CFR §§ 1.56 and 1.97-98, enclosed herewith is modified form PTO/SB/08A listing references for consideration by the Examiner.

The filing of this Information Disclosure Statement shall not be construed as a representation regarding the completeness of the list of references, or that inclusion of a reference in this list is an admission that it is prior art or is pertinent to this application, or that a search has been made, or as an admission that the information listed is, or may be considered to be, material to patentability, or that no other material information exists, and shall not be construed as an admission against interest in any manner.

This Information Disclosure Statement is being filed:

- ☒ within three months of the filing date of the application, or date of entry into the national stage of an international application, or before the mailing date of a first office action on the merits, whichever event last occurred;
- ☐ before the mailing of a first official action after the filing of a request for continued examination (RCE) under 37 CFR § 1.114;
- ☐ after three months of the filing date of this national application or the date of entry of the national stage in an international application, or after the mailing date of the first official action on the merits, whichever event last

occurred, but before the mailing date of the first to occur of either: (1) a final action under 37 CFR §1.113; or (2) an action that otherwise closes prosecution in the application, and:

- ☐ attached hereto is the fee set forth under 37 CFR §1.17(p) for submission of this Information Disclosure Statement under 37 CFR.§ 1.97(c); OR
- ☐ Applicant certifies pursuant to 37 CFR § 1.97(e) that:
  - ☐ each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement; OR
  - ☐ no item of information contained in this 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 this certification after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement;

☐ on or before the payment of the issue fee but after the mailing date of the first to occur of either: (1) a final action under 37 CFR § 1.113; (2) a notice of allowance under 37 CFR § 1.311; or (3) an action that otherwise closes prosecution in the application, and:

- ☐ Applicant certifies pursuant to 37 CFR. § 1.97(e) that:
  - ☐ each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement;
  - ☐ no item of information contained in this 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 this certification after making reasonable inquiry, no item of information contained in this Statement was known to any

individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement; AND

☐ attached hereto is the fee set forth under 37 CFR §1.17(p) for submission of this Information Disclosure Statement under 37 CFR.§ 1.97(d); OR

☐ after the payment of the issue fee. Applicant requests that the information contained in this Information Disclosure Statement be placed in the file according to 37 CFR § 1.97(i), although the information may not be considered by the USPTO.

☐ Enclosed is a copy of each listed reference that may be material to the examination of this application, and for which there may be a duty to disclose.

☐ This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior application No. _____ , filed on _____ , and the references cited therein are hereby referenced, but are not required to be provided in this application under 37 CFR § 1.98(d).

☒ Copies of any foreign patent documents and non-patent literature cited herein are enclosed.

☐ Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application, and the communication was not received by any individual designated in 37 CFR § 1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement. 37 CFR § 1.704(d).

☒ Applicant submits that no fee is required for the consideration of this Information Disclosure Statement.

Consideration of the listed references and favorable action are solicited.

Respectfully submitted,
DAVID L. BROWN ET AL.

Dated: April 28, 2008

By: /Jason E. Amsel/

Jason E. Amsel, Reg. No.: 60,650
Fenwick & West LLP
Silicon Valley Center
801 California Street
Mountain View, CA 94041
Tel.: (650) 335-7692
Fax.: (650) 938-5200

Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application No.**	11/620,577
				Filing Date	January 5, 2007
				First Named Inventor	David L. Brown
				Art Unit	2618
				Examiner Name	Matthew D. Anderson
Sheet	1	of	1	Attorney Docket Number	25000-12196

U.S. PATENT DOCUMENTS				
		Document No.		
Examiner Initials*	Cite No.[1]	Number – Kind Code[2] (if known)	Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
	A1	US-6,879,567	04-12-2005	Callaway et al.
	A2	US-2005/0090200 A1	04-28-2005	Karaoguz et al.
		US-		

FOREIGN PATENT DOCUMENTS					
		Foreign Patent Document			
Examiner Initials*	Cite No.[1]	Country Code[3] – Number[4] Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	T[6]

OTHER REFERENCES – NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	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, page(s), volume-issue number(s), publisher, city and/or country where published	T[6]
	C1	PCT International Search Report and Written Opinion, PCT/US07/00349, March 19, 2008, 10 pages.	

Examiner Signature		Date Considered	

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

[1]Applicant's unique citation designation number (optional). [2]See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3]Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4]For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5]Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6]Applicant is to place a check mark here if English language Translation is attached.

25000/12196/DOCS/1903547.1

Electronic Acknowledgement Receipt

EFS ID:	3217501
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	758
Filer:	Jason E. Amsel
Filer Authorized By:	
Attorney Docket Number:	25000-12196
Receipt Date:	28-APR-2008
Filing Date:	05-JAN-2007
Time Stamp:	16:20:41
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	Information Disclosure Statement Letter	12196IDS.pdf	123530 fd5973d5f3cf4044c28e842f96b3751dd ee98325	no	3

Warnings:	
Information:	

INTEL-1008
U.S. Patent 8,457,672

2	NPL Documents	PCT-US07-000349-ISR-WO-12194PCT.pdf	695687 a43f249b3c5734cdaa771739cba02d6111ceddec	no	10
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Filed	12196Form8A.pdf	112295 319ecd50c073a7f0689750cc12c57e275b25a6ce	no	1
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
			Total Files Size (in bytes):	931512	

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New Applications Under 35 U.S.C. 111
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.

National Stage of an International Application under 35 U.S.C. 371
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.

New International Application Filed with the USPTO as a Receiving Office
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INTEL-1008
U.S. Patent 8,457,672

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www.uspto.gov

APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	FILE WRAPPER LOCATION
11/620,577		2618	2618

OC000000037299503

Correspondence Address/Fee Address Change

The following fields have been set to Customer Number 89194 on 08/10/2009

- **Correspondence Address**
- **Maintenance Fee Address**
- **Power of Attorney Address**

The address of record for Customer Number 89194 is:

89194
Proxense/Fenwick
Silicon Valley Center
801 California Street
Mountain View, CA 94041

PART 1 - ATTORNEY/APPLICANT COPY
page 1 of 1

PLUS Search Results for S/N 11620577, Searched Thu Aug 13 14:22:29 EDT 2009

The Patent Linguistics Utility System (PLUS) is a USPTO automated search system for U.S. Patents from 1971 to the present PLUS is a query-by-example search system which produces a list of patents that are most closely related linguistically to the application searched. This search was prepared by the staff of the Scientific and Technical Information Center, SIRA.

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4757195 54
4765437 54
4772762 54
4778281 54
4782412 54
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4842904 54
4845154 54

Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application No.**	11/620,577
				Filing Date	January 5, 2007
				First Named Inventor	David L. Brown
				Art Unit	2618
				Examiner Name	Lauri D. Harris
Sheet	1	of	1	Attorney Docket Number	25000-12196

U.S. PATENT DOCUMENTS				
		Document No.		
Examiner Initials*	Cite No.[1]	Number – Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
	A1	US-7,277,737 B1	10-02-2007	Vollmer et al.
	A2	US-7,130,668 B2	10-31-2006	Chang et al.
	A3	US-6,889,067 B2	05-03-2005	Willey
	A4	US-6,788,924 B1	09-07-2004	Knutson et al.
	A5	US-5,392,287 A	02-21-1995	Tiedemann Jr. et al.
	A6	US-2007/0060095 A1	03-15-2007	Subrahmanya et al.
	A7	US-2006/0194598 A1	08-31-2006	Kim et al.
	A8	US-2006/0030353 A1	02-09-2006	Jun
	A9	US-2006/0025180 A1	02-02-2006	Rajkotia et al.
	A10	US-2005/0049013 A1	03-03-2005	Chang et al.
	A11	US-2005/0047386 A1	03-03-2005	Yi
	A12	US-2004/0029620 A1	02-12-2004	Karaoguz
	A13	US-2003/0117969 A1	06-26-2003	Koo et al.
	A14	US-2003/0036416 A1	02-20-2003	Pattabiraman et al.
	A15	US-2002/0022455 A1	02-21-2002	Salokannel et al.

FOREIGN PATENT DOCUMENTS					
		Foreign Patent Document			
Examiner Initials*	Cite No.[1]	Country Code[3] – Number[4] Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	T[6]

OTHER REFERENCES – NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	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, page(s), volume-issue number(s), publisher, city and/or country where published	T[6]

Examiner Signature		Date Considered	

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Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant's unique citation designation number (optional). [2]See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3]Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4]For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5]Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6]Applicant is to place a check mark here if English language Translation is attached.

25000/12196/DOCS/2130783.1

Electronic Acknowledgement Receipt

EFS ID:	6211999
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	89194
Filer:	Greg T. Sueoka
Filer Authorized By:	
Attorney Docket Number:	25000-12196
Receipt Date:	06-OCT-2009
Filing Date:	05-JAN-2007
Time Stamp:	17:11:14
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	Transmittal Letter	12196IDS.pdf	107300 88359816f766bda47bdeb2e25c19a7d1d3967791	no	3

Warnings:	
Information:	

INTEL-1008
U.S. Patent 8,457,672

2	Information Disclosure Statement (IDS) Filed (SB/08)	12196Form8A.pdf	93036 f7519c0690388d202e139d65482813d2dd8ccf66	no	1

Warnings:	
Information:	
This is not an USPTO supplied IDS fillable form	
Total Files Size (in bytes):	200336

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.

New Applications Under 35 U.S.C. 111
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.

National Stage of an International Application under 35 U.S.C. 371
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.

New International Application Filed with the USPTO as a Receiving Office
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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	David L. Brown et al.
APPLICATION NO.:	11/620,577
FILING DATE:	January 5, 2007
TITLE:	Dynamic Real-Time Tiered Client Access
EXAMINER:	Lauri D. Harris
GROUP ART UNIT:	2618
ATTY. DKT. NO.:	25000-12196

CERTIFICATE OF ELECTRONIC (EFS-WEB) TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.8(a)(i)(C) from the Pacific Time Zone of the United States on the local date shown below.

Dated: October 6, 2009 By: /Greg T. Sueoka/

Greg T. Sueoka, Reg. No. 33,800

INFORMATION DISCLOSURE STATEMENT
Under 37 CFR §§ 1.56 and 1.97-98

SIR:

Pursuant to the provisions of 37 CFR §§ 1.56 and 1.97-98, enclosed herewith is modified form PTO/SB/08A listing references for consideration by the Examiner.

The filing of this Information Disclosure Statement shall not be construed as a representation regarding the completeness of the list of references, or that inclusion of a reference in this list is an admission that it is prior art or is pertinent to this application, or that a search has been made, or as an admission that the information listed is, or may be considered to be, material to patentability, or that no other material information exists, and shall not be construed as an admission against interest in any manner.

This Information Disclosure Statement is being filed:

- ☒ within three months of the filing date of the application, or date of entry into the national stage of an international application, or before the mailing date of a first office action on the merits, whichever event last occurred;
- ☐ before the mailing of a first official action after the filing of a request for continued examination (RCE) under 37 CFR § 1.114;

☐ after three months of the filing date of this national application or the date of entry of the national stage in an international application, or after the mailing date of the first official action on the merits, whichever event last occurred, but before the mailing date of the first to occur of either: (1) a final action under 37 CFR §1.113; or (2) an action that otherwise closes prosecution in the application, and:

- ☐ attached hereto is the fee set forth under 37 CFR §1.17(p) for submission of this Information Disclosure Statement under 37 CFR.§ 1.97(c); OR
- ☐ Applicant certifies pursuant to 37 CFR § 1.97(e) that:
  - ☐ each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement; OR
  - ☐ no item of information contained in this 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 this certification after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement;

☐ on or before the payment of the issue fee but after the mailing date of the first to occur of either: (1) a final action under 37 CFR § 1.113; (2) a notice of allowance under 37 CFR § 1.311; or (3) an action that otherwise closes prosecution in the application, and:

- ☐ Applicant certifies pursuant to 37 CFR. § 1.97(e) that:
  - ☐ each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement;
  - ☐ no item of information contained in this 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 this certification after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement; AND

☐ attached hereto is the fee set forth under 37 CFR §1.17(p) for submission of this Information Disclosure Statement under 37 CFR.§ 1.97(d); OR

☐ after the payment of the issue fee. Applicant requests that the information contained in this Information Disclosure Statement be placed in the file according to 37 CFR § 1.97(i), although the information may not be considered by the USPTO.

☐ This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior application No. _____ , filed on _____ , and the references cited therein are hereby referenced, but are not required to be provided in this application under 37 CFR § 1.98(d).

☐ Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application, and the communication was not received by any individual designated in 37 CFR § 1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement. 37 CFR § 1.704(d).

Respectfully submitted,

Dated: October 6, 2009

By: /Greg T. Sueoka/

Greg T. Sueoka, Reg. No.: 33,800
Fenwick & West LLP
Silicon Valley Center
801 California Street
Mountain View, CA 94041
Tel.: (650) 335-7194
Fax.: (650) 938-5200

PLUS Search Results for S/N 11620577, Searched Fri Oct 23 11:34:57 EDT 2009

The Patent Linguistics Utility System (PLUS) is a USPTO automated search system for U.S. Patents from 1971 to the present PLUS is a query-by-example search system which produces a list of patents that are most closely related linguistically to the application searched. This search was prepared by the staff of the Scientific and Technical Information Center, SIRA.

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Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				**Application No.**	11/620,577
				Filing Date	January 5, 2007
				First Named Inventor	David L. Brown
				Art Unit	2618
				Examiner Name	Lauri D. Harris
Sheet	1	of	1	Attorney Docket Number	25000-12196

U.S. PATENT DOCUMENTS				
		Document No.		
Examiner Initials*	Cite No.[1]	Number – Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
	A1	US-7,031,945	04-18-2006	Donner
	A2	US-2004/0082385 A1	04-29-2004	Silva et al.
	A3	US-2004/0048570 A1	03-11-2004	Oba et al.
	A4	US-2004/0029635 A1	02-12-2004	Giobbi

FOREIGN PATENT DOCUMENTS					
		Foreign Patent Document			
Examiner Initials*	Cite No.[1]	Country Code[3] – Number[4] Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	T[6]

OTHER REFERENCES – NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	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, page(s), volume-issue number(s), publisher, city and/or country where published	T[6]

Examiner Signature		Date Considered	

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

[1]Applicant's unique citation designation number (optional). [2]See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3]Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4]For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5]Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6]Applicant is to place a check mark here if English language Translation is attached.

25000/12196/DOCS/2144137.1

Electronic Acknowledgement Receipt

EFS ID:	6394333
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	89194
Filer:	Greg T. Sueoka
Filer Authorized By:	
Attorney Docket Number:	25000-12196
Receipt Date:	04-NOV-2009
Filing Date:	05-JAN-2007
Time Stamp:	20:05:41
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	Transmittal Letter	12196IDS.pdf	107272 dc94855003175c2a9b71353d6ccadda72bc77c34	no	3

Warnings:	
Information:	

INTEL-1008
U.S. Patent 8,457,672

2	Information Disclosure Statement (IDS) Filed (SB/08)	12196Form8A.pdf	92273 8cd12d9ecd7a6e5286628c3a5482bcbb7ed34bd9	no	1

Warnings:	
Information:	
This is not an USPTO supplied IDS fillable form	
Total Files Size (in bytes):	199545

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New Applications Under 35 U.S.C. 111
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.

National Stage of an International Application under 35 U.S.C. 371
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.

New International Application Filed with the USPTO as a Receiving Office
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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	David L. Brown et al.
APPLICATION NO.:	11/620,577
FILING DATE:	January 5, 2007
TITLE:	Dynamic Real-Time Tiered Client Access
EXAMINER:	Lauri D. Harris
GROUP ART UNIT:	2618
ATTY. DKT. NO.:	25000-12196

CERTIFICATE OF ELECTRONIC (EFS-WEB) TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.8(a)(i)(C) from the Pacific Time Zone of the United States on the local date shown below.

Dated: November 4, 2009 By: /Greg T. Sueoka/

Greg T. Sueoka, Reg. No. 33,800

INFORMATION DISCLOSURE STATEMENT
Under 37 CFR §§ 1.56 and 1.97-98

SIR:

Pursuant to the provisions of 37 CFR §§ 1.56 and 1.97-98, enclosed herewith is modified form PTO/SB/08A listing references for consideration by the Examiner.

The filing of this Information Disclosure Statement shall not be construed as a representation regarding the completeness of the list of references, or that inclusion of a reference in this list is an admission that it is prior art or is pertinent to this application, or that a search has been made, or as an admission that the information listed is, or may be considered to be, material to patentability, or that no other material information exists, and shall not be construed as an admission against interest in any manner.

This Information Disclosure Statement is being filed:

- ☒ within three months of the filing date of the application, or date of entry into the national stage of an international application, or before the mailing date of a first office action on the merits, whichever event last occurred;
- ☐ before the mailing of a first official action after the filing of a request for continued examination (RCE) under 37 CFR § 1.114;

☐ after three months of the filing date of this national application or the date of entry of the national stage in an international application, or after the mailing date of the first official action on the merits, whichever event last occurred, but before the mailing date of the first to occur of either: (1) a final action under 37 CFR §1.113; or (2) an action that otherwise closes prosecution in the application, and:

- ☐ attached hereto is the fee set forth under 37 CFR §1.17(p) for submission of this Information Disclosure Statement under 37 CFR.§ 1.97(c); OR
- ☐ Applicant certifies pursuant to 37 CFR § 1.97(e) that:
  - ☐ each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement; OR
  - ☐ no item of information contained in this 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 this certification after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement;

☐ on or before the payment of the issue fee but after the mailing date of the first to occur of either: (1) a final action under 37 CFR § 1.113; (2) a notice of allowance under 37 CFR § 1.311; or (3) an action that otherwise closes prosecution in the application, and:

- ☐ Applicant certifies pursuant to 37 CFR. § 1.97(e) that:
  - ☐ each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement;
  - ☐ no item of information contained in this 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 this certification after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement; AND

☐ attached hereto is the fee set forth under 37 CFR §1.17(p) for submission of this Information Disclosure Statement under 37 CFR.§ 1.97(d); OR

☐ after the payment of the issue fee. Applicant requests that the information contained in this Information Disclosure Statement be placed in the file according to 37 CFR § 1.97(i), although the information may not be considered by the USPTO.

☐ This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior application No. _____ , filed on _____ , and the references cited therein are hereby referenced, but are not required to be provided in this application under 37 CFR § 1.98(d).

☐ Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application, and the communication was not received by any individual designated in 37 CFR § 1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement. 37 CFR § 1.704(d).

Respectfully submitted,

Dated: November 4, 2009

/Greg T. Sueoka/

Greg T. Sueoka, Reg. No.: 33,800
Fenwick & West LLP
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Mountain View, CA 94041
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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/620,577	01/05/2007	David L. Brown	25000-12196	9508

89194 7590 12/02/2009

Proxense/Fenwick
Silicon Valley Center
801 California Street
Mountain View, CA 94041

EXAMINER	
HARRIS, LAURI D	
ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
12/02/2009	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):

ptoc@fenwick.com
gsueoka@fenwick.com
nmorad@fenwick.com

PTOL-90A (Rev. 04/07)

INTEL-1008
U.S. Patent 8,457,672

Office Action Summary	Application No.	Applicant(s)	
	11/620,577	BROWN ET AL.	
	Examiner	Art Unit	
	LAURI HARRIS	2618	

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

Period for Reply

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

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

Status

1)☒ Responsive to communication(s) filed on *05 January 2007*.

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

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

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

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

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☒ Claim(s) *13* is/are objected to.

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

Application Papers

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

10)☒ The drawing(s) filed on *05 January 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

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

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

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

Priority under 35 U.S.C. § 119

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

a)☐ All b)☐ Some * c)☐ None of:

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

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

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

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

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/6/2009, 4/28/2008 and 11/04/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is in response to Applicant's specification which was filed on 1/5/2007. Claims 1-26 are pending in this application, with claims 1, 8, 12, 20, 24 and 26 being independent.

Information Disclosure Statement

2. Applicant should note that the large number of references in the attached IDS have been considered by the examiner in the same manner as other documents in Office search files are considered by the examiner while conducting a search of the prior art in a proper field of search. **See MPEP 609.05(b).** Applicant is requested to point out any particular references in the IDS which they believe may be of particular relevance to the instant claimed invention in response to this office action.

Claim Objections

3. Claim 13 is objected to because of the following informalities: Claim 13 does not end with a period. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

INTEL-1008
U.S. Patent 8,457,672

5. Claims 1, 3-4, 8, 11, 20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Shloss US Patent No. 5,517,502.

Regarding **claim 1**, Shloss discloses a method of facilitating data exchange, comprising: assigning a first specific time slot for a first client device (assigning a time slot of a transponder) (Figure 2, Item 114; column 7, lines 23-45) to wirelessly communicate with a fixed proximity-based reader device (reader) (Figure 2, Item 102; column 3, lines 59-66); and assigning a second specific time slot for a second client device to wirelessly communicate with the fixed proximity-based reader device (shows that Item 114 of Figure 2 is an example of multiple transponders) (column 7, lines 58-67).

Claim 20 is rejected for the same reasons as stated above for claim 1.

Regarding **claim 3**, Shloss discloses a method of claim 1, wherein assigning the first specific time slot comprises: masking a bit field of the first client device (Figure 4; column 10, lines 29-53).

Regarding **claim 4**, Shloss discloses a method of claim 3, wherein the mask is wirelessly communicated to the first client device (column 10, line 54-column 11, line 7).

Claim 22 is rejected for the same reasons as stated above for claim 4.

Regarding **claim 8**, Shloss discloses an apparatus, comprising: a physical, portable key device adapted to wirelessly communicate data (transponder) (column 8, lines 44-52) with a fixed reader device when located in a wireless coverage area of the fixed reader device, wherein the key device is arranged to communicate with the fixed reader device during a time slot determined based on a bit field stored in the key device

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U.S. Patent 8,457,672

(a unique identification number is stored in memory and used to gain access to the network) (column 8, lines 43-52) (transponder time slot assignments) (column 7, lines 42-45).

Regarding **claim 11**, Shloss discloses an apparatus of claim 8, wherein the bit field represents an identification of the key device (unique identification number) (column 8, lines 43-52).

Claim Rejections - 35 USC § 103

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

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

7. Claims 2, 9-10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss US Patent No. 5,307,349 in view of Bestler US Patent No. 5,517,502.

Regarding **claim 2**, Shloss discloses a method of claim 1. Shloss discloses setting time slots and changing the time slots based on network traffic (column 8, lines 43-52). Shloss does not disclose dynamically adjusting the size of the time slot. Bestler discloses dynamically adjusting the size of the time slot (The width and timing location of the time slots for a subscriber terminal are programmably controlled from the headend to accommodate dynamic changes within the network and making adjustments to the time slots or controlling the width and number of the time slots)

INTEL-1008
U.S. Patent 8,457,672

(column 4, lines 48-58), further comprising: dynamically adjusting at least one of the first specific time slot and the second specific time slot. It would have been obvious to one of ordinary skill in the art at the time of the invention to include within Shloss's changing of the time slot Bestler's adjustment of the slot width because Bestler states that this provides the ability to accom9odate dynamic changes within the network (column 4, lines 48-58).

Claim 21 is rejected for the same reasons as stated above for claim 2.

Regarding **claim 9**, Shloss discloses an apparatus of claim 8. Shloss discloses adjusting the time slot for another time slot based on the mask (slots are identified by letter codes or masks and are adjusted dependent on those masks) (column 10, lines 38-67). Shloss does not disclose dynamically adjusting the size of the time slot. Bestler discloses dynamically adjusting the size of the time slot (The width and timing location of the time slots for a subscriber terminal are programmably controlled from the headend to accommodate dynamic changes within the network and making adjustments to the time slots or controlling the width and number of the time slots) (column 4, lines 48-58), further comprising: dynamically adjusting at least one of the first specific time slot and the second specific time slot. It would have been obvious to one of ordinary skill in the art at the time of the invention to include within Shloss's changing of the time slot Bestler's adjustment of the slot width because Bestler states that this provides the ability to accommodate dynamic changes within the network (column 4, lines 48-58).

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Regarding **claim 10**, Shloss discloses an apparatus of claim 9, wherein the mask is determined external to the key device (sixty-four bit seed field is formed by the reader) (column 9, lines 65-68).

8. Claims 12-16, 17-19 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss US Patent No. 5,307,349 in view of Beasley PGPub 2002/0177460.

Regarding **claim 12**, Shloss discloses a system, comprising: a fixed reader device operatively connected to a network device and having a first wireless coverage range within a second wireless coverage range; and a portable client device arranged to wirelessly communicate data with the fixed reader device when the client device is within the first wireless coverage range (transponder) (column 8, lines 44-52), wherein a time slot during which the client device communicates data with the fixed reader device is determined based on synchronization information received by the client device (once connected the transponder is assigned specific and unique time slots) (column 7, lines 23-25). Shloss does not disclose wirelessly broadcasting synchronization information to a portable client device. Beasley discloses the base station unit broadcasting synchronization information (paragraphs 114-116). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Shloss's synchronization between devices by Beasley's broadcasting of synchronization information because Beasely states this supports mobility by providing current information regarding synchronization with the base station (paragraph 117).

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Regarding **claim 13**, Shloss discloses a system of claim 12, further comprising: a network device arranged to wirelessly broadcast the synchronization information in the second wireless coverage range (column 7, lines 46-55). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Shloss's 100 foot range with a second wireless coverage range which encompasses the first because the second range would be the maximum distance transmissions may be sent and the first would be less than the maximum distance and therefore accessible.

Regarding **claim 14**, Shloss discloses a system of claim 12, wherein the client device is further arranged to store a bit field according to which the time slot is determined (column 7, lines 23-34).

Regarding **claim 15**, Shloss discloses a system of claim 14, wherein the synchronization information comprises a mask for application to the bit field (column 7. lines 23-31).

Regarding **claim 16**, Shloss discloses a system of claim 12, wherein the synchronization information (entry into the network is not permitted during already assigned time slots) is dependent on a traffic load in the system (traffic density) (column 7, lines 10-34).

Regarding **claim 18**, Shloss discloses a system of claim 12, wherein the network device is further arranged to dynamically alter the synchronization information to modify the time slot during which the client device communicates with the fixed reader device (data may be transmitted in more than one time slot) (column 11, lines 39-50).

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Regarding **claim 19**, Shloss discloses a system of claim 12, wherein the time slot is determined based on a tier status of the client device (a different method of assignment is used for each type of time slot and protocol) (column 7, lines 50-68).

Regarding **claim 26**, Shloss discloses a method of facilitating data exchange. Shloss discloses assigning a time slot during which the client device can receive data (assigned specific time slots); and wirelessly broadcasting data for reception by the client device during the time slot (thereafter data communication occurs in the assigned time slots) (column 7, lines 23-31). Shloss does not disclose wirelessly broadcasting synchronization information to a portable client device. Beasley discloses the base station unit broadcasting synchronization information (paragraphs 114-116). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Shloss's synchronization between devices by Beasley's broadcasting of synchronization information because Beasely states this supports mobility by providing current information regarding synchronization with the base station (paragraph 117).

Claim 24 is rejected for the same reasons as stated above for claim 26.

Regarding **claim 25**, Shloss discloses a system of claim 24, further comprising: a reader device configured to proximity sense the client device (short range within 100 feet) (column 7, lines 46-50), and further configured to communicate data with the client device in accordance with the synchronization information (thereafter data communication occurs in the assigned time slots) (column 7. lines 23-31).

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9. Claims 5-6, 17 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss US Patent No. 5,307,349 in view of Barnay US Patent No. 7,068,623.

Regarding **claim 5**, Shloss discloses a method of claim 1. Shloss does not disclose wherein assigning the first specific time slot is dependent on a class of at least one of a user associated with the first client device and a class of the first client device. Barany discloses wherein assigning the first specific time slot is dependent on a class of at least one of a user associated with the first client device (full-rate voice user) (column 5, lines 27-49) and a class of the first client device (see second obviousness statement below). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Shloss's time slot assignment by Barnay's time slot assignment based on class because Barnay states that this method of time slot assignment provides for dedicated or limited sharing which as is well known in the art would reduce collisions (column 6, lines 30-37). It would also have been obvious to one of ordinary skill in the art at the time of the invention to implement a class associated with devices as well as a class associated with users because just like users all devices do not use the network bandwidth the same a pager providing texting capabilities versus a cell phone providing voice capabilities.

Claim 17 is rejected for the same reasons stated above for claim 5.

Regarding **claim 6**, Shloss discloses a method of claim 1. Shloss does not disclose wherein assigning the first specific time slot is dependent on a network traffic load. Barnay discloses wherein assigning the first specific time slot is dependent on a

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network traffic load (assigning based on different traffic classes) (column 5, line 51-column 6, line 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Shloss's time slot assignment by Barnay's time slot assignment based on traffic because Barnay states that a multiplexer may be used in silent periods to combine flow of the network traffic reducing possible traffic collisions (column 6, lines 20-37).

Claim 23 is rejected for the same reasons as stated above for claims 5 and 6.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss US Patent No. 5,307,349 in view of Rabe US Patent No. 6,138,010.

Regarding **claim 7**, Shloss discloses a method of claim 1. Shloss does not disclose further comprising: reassigning the first specific time slot to a third client device in response to a detection that the first client device is unavailable. Rabe discloses further comprising: reassigning the first specific time slot to a third client device in response to a detection that the first client device is unavailable (inactive idle messages indicates that the communication device will be unavailable during an idle duration and the time slot and frequency may be reassigned during this unavailable period) (column 10, line 52-column 11, line 11). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Shloss's time slot assignment by Rabe's reassignment or unused time slots because Rabe states this permits use of the time slots when the first client device would not be using the time slots (column 6, lines 55-67).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAURI HARRIS whose telephone number is (571)270-7482. The examiner can normally be reached on Monday-Thursday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on 571-272-7503. 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.

/LH/

/Duc Nguyen/

Supervisory Patent Examiner, Art Unit 2618

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Notice of References Cited	Application/Control No. 11/620,577	Applicant(s)/Patent Under Reexamination BROWN ET AL.	
	Examiner LAURI HARRIS	Art Unit 2618	Page 1 of 1

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,307,349	04-1994	Shloss et al.	370/442
*	B	US-5,517,502	05-1996	Bestler et al.	370/449
*	C	US-2002/0177460	11-2002	Beasley et al.	455/502
*	D	US-7,068,623	06-2006	Barany et al.	370/329
*	E	US-6,138,010	10-2000	Rabe et al.	455/426.1
	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	
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11620577	BROWN ET AL.
	Examiner	Art Unit
	LAURI HARRIS	2618

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

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

CLAIM		DATE								
Final	Original	11/17/2009								
	1	✓								
	2	✓								
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	4	✓								
	5	✓								
	6	✓								
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	22	✓								
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	24	✓								
	25	✓								
	26	✓								

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11620577	BROWN ET AL.
	Examiner	**Art Unit**
	LAURI HARRIS	2618

SEARCHED			
Class	**Subclass**	**Date**	**Examiner**
455	41.2	11/17/2009	LH

SEARCH NOTES		
Search Notes	**Date**	**Examiner**
assignee/inventor	11/17/2009	LH
EAST	11/17/2009	LH
PLUS	11/17/2009	LH
IEEE/Google		LH

INTERFERENCE SEARCH			
Class	**Subclass**	**Date**	**Examiner**

/LAURI HARRIS/ Examiner.Art Unit 2618	

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if Known	
Application No.	11/620,577
Filing Date	January 5, 2007
First Named Inventor	David L. Brown
Art Unit	2618
Examiner Name	Matthew D. Anderson
Attorney Docket Number	25000-12196

Sheet 1 of 1

U.S. PATENT DOCUMENTS				
		Document No.		
Examiner Initials*	Cite No.[1]	Number – Kind Code[2] (if known)	Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
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	A2	US-2005/0090200 A1	04-28-2005	Karaoguz et al.
		US-		

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		Foreign Patent Document			
Examiner Initials*	Cite No.[1]	Country Code[3] – Number[4] Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	T[6]

OTHER REFERENCES – NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	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, page(s), volume-issue number(s), publisher, city and/or country where published	T[6]
	C1	PCT International Search Report and Written Opinion, PCT/US07/00349, March 19, 2008, 10 pages.	

Examiner Signature	/Lauri Harris/	Date Considered	10/23/2009

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25000/12196/DOCS/1903547.1

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

	Complete if Known
Application No.	11/620,577
Filing Date	January 5, 2007
First Named Inventor	David L. Brown
Art Unit	2618
Examiner Name	Lauri D. Harris
Sheet 1 of 1	Attorney Docket Number 25000-12196

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	A2	US-2004/0082385 A1	04-29-2004	Silva et al.
	A3	US-2004/0048570 A1	03-11-2004	Oba et al.
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OTHER REFERENCES – NON-PATENT LITERATURE DOCUMENTS

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Examiner Signature	/Lauri Harris/	Date Considered	11/15/2009

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25000/12196/DOCS/2144137.1

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Application No.	11/620,577
Filing Date	January 5, 2007
First Named Inventor	David L. Brown
Art Unit	2618
Examiner Name	Lauri D. Harris
Sheet 1 of 1	Attorney Docket Number 25000-12196

U.S. PATENT DOCUMENTS				
		Document No.		
Examiner Initials*	Cite No.[1]	Number – Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
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	A2	US-7,130,668 B2	10-31-2006	Chang et al.
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SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
11/620,577	01/05/2007 RULE	257	2618	25000-12196

APPLICANTS

David L. Brown, Jupiter, FL;
Fred S. Hirt, Brookfield, IL;

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

This appln claims benefit of 60/760,362 01/06/2006

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

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01/30/2007

Foreign Priority claimed	35 USC 119(a-d) conditions met	Verified and Acknowledged	Met after Allowance	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ Yes ☑ No	☐ Yes ☑ No	/LAURI D HARRIS/ Examiner's Signature	☐ Initials	FL	42	26	6

ADDRESS

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Silicon Valley Center
801 California Street
Mountain View, CA 94041
UNITED STATES

TITLE

Dynamic Real-Time Tiered Client Access

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BIB (Rev. 05/07).

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	6	"7068623"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 10:17
L2	109006	unavailable	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 10:22
L3	1659	lost adj connection	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 10:23
L4	110203	2 or 3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 10:23
L5	181	reassign$3 near3 (time adj slot)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 10:23
L6	181	reassign$3 near3 (time adj slots)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 10:24
L7	19	4 and 5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 10:24

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S1	50	(US-5926586-$ or US-5545972-$ or US-5649360-$ or US-5653258-$ or US-4249687-$ or US-4301098-$ or US-4306841-$ or US-4308826-$ or US-4318338-$ or US-4327284-$ or US-4360958-$ or US-4369780-$ or US-4376991-$ or US-4387312-$ or US-4390036-$ or US-4391146-$ or US-4419395-$ or US-4431246-$ or US-4441160-$ or US-4449028-$ or US-4450502-$ or US-4453310-$ or US-4456270-$ or US-4459124-$ or US-4467672-$ or US-4474645-$).did. or (US-4476661-$ or US-4485930-$ or US-4503986-$ or US-4503716-$ or US-4509774-$ or US-4511359-$ or US-4516966-$ or US-4521051-$ or US-4528677-$ or US-4547034-$ or US-4553811-$ or US-4569081-$ or US-4595191-$ or US-4610257-$ or US-4757195-$ or US-4765437-$ or US-4772762-$ or US-4778281-$ or US-4782412-$ or US-4790570-$ or US-4821597-$ or US-RE32941-$ or US-4842904-$ or US-4845154-$).did.	USPAT	AND	ON	2009/08/27 13:49
S2	24	(PROXENSE).as.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/10/23 14:02
S3	1737	((DAVID) near2 (BROWN)).INV.	US-PGPUB; USPAT; USOCR	AND	ON	2009/10/23 14:02
S4	580	((DAVID) near2 (BROWN)).INV.	EPO; JPO; DERWENT	AND	ON	2009/10/23 14:02
S5	15	((FRED) near2 (HIRT)).INV.	US-PGPUB; USPAT; USOCR	AND	ON	2009/10/23 14:02
S6	1	((FRED) near2 (HIRT)).INV.	EPO; JPO; DERWENT	AND	ON	2009/10/23 14:03
S7	2737	(455/41.2).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/10/23 14:03

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S8	50	(US-5926586-$ or US-5545972-$ or US-5649360-$ or US-5653258-$ or US-4249687-$ or US-4301098-$ or US-4306841-$ or US-4308826-$ or US-4318338-$ or US-4327284-$ or US-4360958-$ or US-4369780-$ or US-4376991-$ or US-4387312-$ or US-4390036-$ or US-4391146-$ or US-4419395-$ or US-4431246-$ or US-4441160-$ or US-4449028-$ or US-4450502-$ or US-4453310-$ or US-4456270-$ or US-4459124-$ or US-4467672-$ or US-4474645-$).did. or (US-4476661-$ or US-4485930-$ or US-4503986-$ or US-4503716-$ or US-4509774-$ or US-4511359-$ or US-4516966-$ or US-4521051-$ or US-4528677-$ or US-4547034-$ or US-4553811-$ or US-4569081-$ or US-4595191-$ or US-4610257-$ or US-4757195-$ or US-4765437-$ or US-4772762-$ or US-4778281-$ or US-4782412-$ or US-4790570-$ or US-4821597-$ or US-RE32941-$ or US-4842904-$ or US-4845154-$).did.	USPAT	AND	ON	2009/10/26 07:55
S9	24	(PROXENSE).as.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/10/26 07:55
S10	1737	((DAVID) near2 (BROWN)).INV.	US-PGPUB; USPAT; USOCR	AND	ON	2009/10/26 07:55
S11	580	((DAVID) near2 (BROWN)).INV.	EPO; JPO; DERWENT	AND	ON	2009/10/26 07:55
S12	15	((FRED) near2 (HIRT)).INV.	US-PGPUB; USPAT; USOCR	AND	ON	2009/10/26 07:55
S13	1	((FRED) near2 (HIRT)).INV.	EPO; JPO; DERWENT	AND	ON	2009/10/26 07:55
S14	2737	(455/41.2).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/10/26 07:55
S15	2354	S8 or S9 or S10 or S11 or S12 or S13 or S14	USPAT	AND	ON	2009/10/26 07:55

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S16	568	electronic adj wallet	USPAT	AND	ON	2009/10/26 07:56
S17	1119	electronic adj (wallet or purse)	USPAT	AND	ON	2009/10/26 07:56
S18	14415	(electronic adj (wallet or purse)) or (smart adj card)	USPAT	AND	ON	2009/10/26 07:57
S19	743	(electronic adj (wallet or purse)) and (smart adj card)	USPAT	AND	ON	2009/10/26 07:57
S20	3	S19 and S15	USPAT	AND	ON	2009/10/26 07:57
S21	0	(electronic adj (wallet or purse)) and (NFC or RFID) and ESR and TCF and TACK and applets	USPAT	AND	ON	2009/10/26 08:02
S22	26	(electronic adj (wallet or purse)) and (NFC or RFID) and applets	USPAT	AND	ON	2009/10/26 08:02
S23	25	(electronic adj (wallet or purse)) and (NFC or RFID) and applets and contactless	USPAT	AND	ON	2009/10/26 08:02
S24	30	(electronic adj (wallet or purse)) and (NFC or RFID or FOB) and applets and contactless	USPAT	AND	ON	2009/10/26 08:03
S25	1	(electronic adj (wallet or purse)) and (NFC or RFID or FOB) and applets and contactless and TACK	USPAT	AND	ON	2009/10/26 08:08
S26	70	(electronic adj (wallet or purse)) and (NFC or RFID or FOB or wireless) and applets and (contactless or proximity)	USPAT	AND	ON	2009/10/26 09:35
S27	115	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and applets and (contactless or proximity)	USPAT	AND	ON	2009/10/26 09:41
S28	3	US-20040019564-$.DID. OR US-20060074698-$.DID. OR US-2367935-$.DID. OR US-1520064-$.DID. OR US-1331018-$.DID.	USPAT	AND	ON	2009/10/26 10:10
S29	23	(("20040019564") or ("20060074698") or ("2367935") or ("1520064") or ("1331018")).PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/10/26 10:12

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S30	4	((electronic adj (wallet or purse or payment)) or smart$card) and (cell $phone or mobile$device) and applets and (contactless or proximity)	USPAT	AND	ON	2009/10/26 10:16
S31	2	((electronic adj (wallet or purse or payment)) or smart$card) same (cell $phone or mobile$device) and applets and (contactless or proximity)	USPAT	AND	ON	2009/10/26 10:18
S32	0	(WO00/21020).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/10/26 10:20
S33	0	("WO21020").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/10/26 10:20
S34	2	("0021020").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/10/26 10:21
S35	2	("20050218234").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/10/26 10:21
S36	0	("WO21020").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/10/26 10:22
S37	1	"WO00/21020"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/10/26 10:22
S38	8	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and applets and (contactless or proximity) and timeout	USPAT	AND	ON	2009/10/26 13:54

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S39	7	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and applets and (contactless or proximity) and timeout and display	USPAT	AND	ON	2009/10/26 13:54
S40	0	((electronic adj (wallet or purse or payment)) or smart$card) same (NFC or RFID or FOB or wireless) and (contactless or proximity) and (timeout same applet) and display	USPAT	AND	ON	2009/10/26 14:00
S41	2	((electronic adj (wallet or purse or payment)) or smart$card) same (NFC or RFID or FOB or wireless) and applets and (contactless or proximity) and timeout and display	USPAT	AND	ON	2009/10/26 14:00
S42	2	("6012049").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/10/26 14:02
S43	1	"5220501".PN.	USPAT; USOCR	AND	ON	2009/10/26 14:03
S44	2	("20050017068").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/10/27 07:37
S45	0	((electronic adj (wallet or purse or payment)) or smart$card) same (NFC or RFID or FOB or wireless) and applets and (contactless or proximity) and timeout and display and monitor near3 event	USPAT	AND	ON	2009/10/27 14:35
S46	21	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and applets and (contactless or proximity) and monitor near3 event	USPAT	AND	ON	2009/10/27 14:36

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S47	21	(US-20060074698-$ or US-20040019564-$ or US-20050218234-$ or US-20050017068-$).did. or (US-7155199-$ or US-7500616-$ or US-7451924-$ or US-7506818-$ or US-7506806-$ or US-7523860-$ or US-7530493-$ or US-7533827-$ or US-7562818-$ or US-6850252-$ or US-6474544-$ or US-6694387-$ or US-6829597-$ or US-7600673-$ or US-7587756-$ or US-7334735-$ or US-6012049-$).did.	US-PGPUB; USPAT	AND	ON	2009/10/27 14:36
S48	1	S46 and S47	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/10/27 14:36
S49	41	S46 or S47	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/10/27 14:36
S50	21	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and applets and (contactless or proximity) and (monitor near3 event)	USPAT	AND	ON	2009/10/27 14:38
S51	0	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and applets and (contactless or proximity) and (monitor near3 event) and (event adj status adj register)	USPAT	AND	ON	2009/10/27 14:53
S52	0	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and applets and (contactless or proximity) and (event adj status adj register)	USPAT	AND	ON	2009/10/27 14:54

S53	0	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and (contactless or proximity) and (event adj status adj register)	USPAT	AND	ON	2009/10/27 14:54
S54	0	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and (event adj status adj register)	USPAT	AND	ON	2009/10/27 14:54
S55	0	((electronic adj (wallet or purse or payment)) or smart$card) and (event adj status adj register)	USPAT	AND	ON	2009/10/27 14:54
S56	66	(event adj status adj register)	USPAT	AND	ON	2009/10/27 14:54
S57	0	(event adj status adj register) and (wallet or purse)	USPAT	AND	ON	2009/10/27 14:55
S58	20	(event adj status adj register) and (payment)	USPAT	AND	ON	2009/10/27 14:55
S59	23	(event near3 status near3 register) and (payment)	USPAT	AND	ON	2009/10/27 14:56
S60	23	S58 or S59	USPAT	AND	ON	2009/10/27 14:56
S61	20	S58 and S59	USPAT	AND	ON	2009/10/27 14:56
S62	2	("7128270").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/10/28 07:30
S63	4	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and applets and (contactless or proximity) and (monitor near3 event) and timeout	USPAT	AND	ON	2009/10/28 07:47
S64	23	(timeout or timer) near5 applet	USPAT	AND	ON	2009/10/28 07:48
S65	0	(timeout or timer) near5 applet and (electronic adj (purse or wallet))	USPAT	AND	ON	2009/10/28 07:49
S66	0	(timeout or timer) near5 applet and (smartcard)	USPAT	AND	ON	2009/10/28 07:49

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S67	2	(timeout or timer) near5 (applet or API) and (smartcard)	USPAT	AND	ON	2009/10/28 07:49
S68	0	(timeout or timer) near5 (applet or API) and (electronic adj (purse or wallet))	USPAT	AND	ON	2009/10/28 07:50
S69	22874	(NFC or RFID or FOB or wireless) and (contactless or proximity)	USPAT	AND	ON	2009/11/15 08:58
S70	1372	(NFC or RFID or FOB or wireless) and (contactless or proximity) and (time adj slot)	USPAT	AND	ON	2009/11/15 08:58
S71	0	(smartcard adj reader) and (contactless or proximity) and blackberry and (time adj slot)	USPAT	AND	ON	2009/11/15 09:00
S72	3	(smartcard adj reader) and (contactless or proximity) and blackberry	USPAT	AND	ON	2009/11/15 09:00
S73	1	US-7031945-$.DID. OR US-20040082385-$.DID. OR US-20040048570-$.DID. OR US-20040029635-$.DID.	USPAT	AND	ON	2009/11/15 09:06
S74	8	(("7031945") or ("20040082385") or ("20040048570") or ("20040029635")).PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/15 09:07
S75	29	US-7277737-$.DID. OR US-7130668-$.DID. OR US-6889067-$.DID. OR US-6788924-$.DID. OR US-5392287-$.DID. OR US-20070060095-$.DID. OR US-20060194598-$.DID. OR US-20060030353-$.DID. OR US-20060025180-$.DID. OR US-20050049013-$.DID. OR US-20050047386-$.DID. OR US-20040029620-$.DID. OR US-20030117969-$.DID. OR US-20030036416-$.DID. OR US-20020022455-$.DID.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/15 09:09
S76	4	US-6879567-$.DID. OR US-20050090200-$.DID.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/15 09:11

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S77	5	(smartcard adj reader) and (contactless or proximity) and (time adj slot)	USPAT	AND	ON	2009/11/15 09:21
S78	1005	(key) and (contactless or proximity) and (time adj slot)	USPAT	AND	ON	2009/11/15 09:22
S79	356	(key) and (contactless or proximity) and (time adj slot) and secure	USPAT	AND	ON	2009/11/15 09:23
S80	93	(key) and (contactless or proximity) and (time adj slot) and (data adj exchange)	USPAT	AND	ON	2009/11/15 09:23
S81	54	S79 and S80	USPAT	AND	ON	2009/11/15 09:23
S82	0	(data adj exchange) same (proximity near3 reader) same (time adj slot)	USPAT	AND	ON	2009/11/15 09:26
S83	0	(data adj exchange) same (proximit$3 near3 reader) same (time adj slot)	USPAT	AND	ON	2009/11/15 09:26
S84	0	(data) same (proximit$3 near3 reader) same (time adj slot)	USPAT	AND	ON	2009/11/15 09:27
S85	0	(data) with (proximit$3 near3 reader) with (time adj slot)	USPAT	AND	ON	2009/11/15 09:27
S86	0	(data) near8 (proximit$3 near3 reader) near8 (time adj slot)	USPAT	AND	ON	2009/11/15 09:27
S87	171	(data) near8 (wireless) near8 (time adj slot)	USPAT	AND	ON	2009/11/15 09:28
S88	0	(data) near8 (wireless near5 reader) near8 (time adj slot)	USPAT	AND	ON	2009/11/15 09:28
S89	30	(data) near8 (reader) near8 (time adj slot)	USPAT	AND	ON	2009/11/15 09:28
S90	32	(US-20060074698-$ or US-20040019564-$ or US-20050218234-$ or US-20050017068-$).did. or (US-7155199-$ or US-7500616-$ or US-7451924-$ or US-7506818-$ or US-7506806-$ or US-7523860-$ or US-7530493-$ or US-7533827-$ or US-7562818-$ or US-6850252-$ or US-6474544-$ or US-6694387-$ or US-6829597-$ or US-7600673-$ or US-7587756-$ or US-7334735-$ or US-	US-PGPUB; USPAT	AND	ON	2009/11/16 05:37

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		6012049-$ or US-7349871-$ or US-7481364-$ or US-7581678-$ or US-5307349-$ or US-5659761-$ or US-6354500-$ or US-6726099-$ or US-6749117-$ or US-6963270-$).did. or (US-7243855-$ or US-7498924-$).did.				
S91	1	S90 and specific near3 time adj slot	US-PGPUB; USPAT	AND	ON	2009/11/16 05:38
S92	10	S90 and mask$3	US-PGPUB; USPAT	AND	ON	2009/11/16 06:29
S93	0	S90 and mask$3 near3 bit adj field	US-PGPUB; USPAT	AND	ON	2009/11/16 06:30
S94	0	S90 and (mask$3 near3 bit adj field)	US-PGPUB; USPAT	AND	ON	2009/11/16 06:30
S95	663	(mask$3 near3 bit adj field)	US-PGPUB; USPAT	AND	ON	2009/11/16 06:30
S96	2677	specific near3 time adj slot	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/16 06:31
S97	9	S95 and S96	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/16 06:31
S98	0	S90 and S97	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/16 06:31
S99	254	(mask$3 near3 bit adj field) and class	US-PGPUB; USPAT	AND	ON	2009/11/16 06:38
S100	94	(mask$3 near3 bit adj field) and class and reader	US-PGPUB; USPAT	AND	ON	2009/11/16 06:41
S101	43	(time adj slot) near (class)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/16 18:23
S102	0	(time adj slot) near (class near3 user near3 device)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/16 18:24

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S103	4	(time adj slot) near (class near3 user)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/16 18:24
S104	7	"6973576"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 05:59
S105	30	(electronic adj (wallet or purse)) and (NFC or RFID or FOB) and applets and contactless	USPAT	AND	ON	2009/11/17 06:03
S106	4	S105 and time adj slot	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 06:03
S107	36	(US-20060074698-$ or US-20040019564-$ or US-20050218234-$ or US-20050017068-$ or US-20060136742-$ or US-20060064605-$).did. or (US-7155199-$ or US-7500616-$ or US-7451924-$ or US-7506818-$ or US-7506806-$ or US-7523860-$ or US-7530493-$ or US-7533827-$ or US-7562818-$ or US-6850252-$ or US-6474544-$ or US-6694387-$ or US-6829597-$ or US-7600673-$ or US-7587756-$ or US-7334735-$ or US-6012049-$ or US-7349871-$ or US-7481364-$ or US-7581678-$ or US-5307349-$ or US-5659761-$ or US-6354500-$ or US-6726099-$ or US-6749117-$ or US-6963270-$).did. or (US-7243855-$ or US-7498924-$ or US-6100817-$ or US-6973576-$).did.	US-PGPUB; USPAT	AND	ON	2009/11/17 06:52
S108	4	US-6879567-$.DID. OR US-20050090200-$.DID.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 08:29

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S109	29	US-7277737-$.DID. OR US-7130668-$.DID. OR US-6889067-$.DID. OR US-6788924-$.DID. OR US-5392287-$.DID. OR US-20070060095-$.DID. OR US-20060194598-$.DID. OR US-20060030353-$.DID. OR US-20060025180-$.DID. OR US-20050049013-$.DID. OR US-20050047386-$.DID. OR US-20040029620-$.DID. OR US-20030117969-$.DID. OR US-20030036416-$.DID. OR US-20020022455-$.DID.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 08:30
S110	8	US-7031945-$.DID. OR US-20040082385-$.DID. OR US-20040048570-$.DID. OR US-20040029635-$.DID.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 08:31
S111	50	(US-5926586-$ or US-5545972-$ or US-5649360-$ or US-5653258-$ or US-4249687-$ or US-4301098-$ or US-4306841-$ or US-4308826-$ or US-4318338-$ or US-4327284-$ or US-4360958-$ or US-4369780-$ or US-4376991-$ or US-4387312-$ or US-4390036-$ or US-4391146-$ or US-4419395-$ or US-4431246-$ or US-4441160-$ or US-4449028-$ or US-4450502-$ or US-4453310-$ or US-4456270-$ or US-4459124-$ or US-4467672-$ or US-4474645-$).did. or (US-4476661-$ or US-4485930-$ or US-4503986-$ or US-4503716-$ or US-4509774-$ or US-4511359-$ or US-4516966-$ or US-4521051-$ or US-4528677-$ or US-4547034-$ or US-4553811-$ or US-4569081-$ or US-4595191-$ or US-4610257-$ or US-4757195-$ or US-4765437-$ or US-4772762-$ or US-4778281-$ or US-4782412-$ or US-4790570-$ or US-4821597-$ or US-RE32941-$ or US-4842904-$ or US-4845154-$).did.	USPAT	AND	ON	2009/11/17 08:31

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S112	127	S111 or S107 or S108 or S109 or S110	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 08:31
S113	25	(PROXENSE).as.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 08:32
S114	1744	((DAVID) near2 (BROWN)).INV.	US-PGPUB; USPAT; USOCR	AND	ON	2009/11/17 08:32
S115	580	((DAVID) near2 (BROWN)).INV.	EPO; JPO; DERWENT	AND	ON	2009/11/17 08:32
S116	15	((FRED) near2 (HIRT)).INV.	US-PGPUB; USPAT; USOCR	AND	ON	2009/11/17 08:32
S117	1	((FRED) near2 (HIRT)).INV.	EPO; JPO; DERWENT	AND	ON	2009/11/17 08:32
S118	2775	(455/41.2).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/17 08:32
S119	5252	S112 or S113 or S114 or S115 or S116 or S117 or S118	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 08:32
S120	305	S119 and (time adj slot) and (class$2 or type$1 or hierarch$3 or tier$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 08:35
S121	64	S119 and (time adj slot) same (class$2 or type$1 or hierarch$3 or tier$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 08:36
S122	66	S119 and (time adj slot) same (QoS or class$2 or type$1 or hierarch$3 or tier $3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 08:48
S123	3	S119 and (time adj slot) same (QoS)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 08:48
S124	4	S119 and (time adj slot) same (tier$3 near5 client)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 08:53

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S125	22	(tiered near5 client near3 access)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 09:01
S126	12	"11/292,330" or "11/620,581"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/17 09:06
S127	0	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and applets and (contactless or proximity) and (broadcast$3 adj sync $11)	USPAT	AND	ON	2009/11/23 08:28
S128	0	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and (contactless or proximity) and (broadcast $3 adj sync$11)	USPAT	AND	ON	2009/11/23 08:28
S129	0	((electronic adj (wallet or purse or payment)) or smart$card) and (contactless or proximity) and (broadcast$3 adj sync $11)	USPAT	AND	ON	2009/11/23 08:28
S130	0	((electronic adj (wallet or purse or payment)) or smart$card) and (broadcast $3 adj sync$11)	USPAT	AND	ON	2009/11/23 08:29
S131	375	(broadcast$3 adj sync$11)	USPAT	AND	ON	2009/11/23 08:29
S132	42	(broadcast$3 adj sync$11) and (contactless or proximity)	USPAT	AND	ON	2009/11/23 08:29
S133	185	(broadcast$3 adj (sync or synchronize or synchronizing))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:32
S134	118	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and applets and (contactless or proximity)	USPAT	AND	ON	2009/11/23 08:32

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S135	372	((electronic adj (wallet or purse or payment)) or smart$card) and (NFC or RFID or FOB or wireless) and applets and (contactless or proximity)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:32
S136	0	S133 and S135	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:33
S137	16605	((electronic adj (wallet or purse or payment)) or smart$card)\	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:33
S138	16605	((electronic adj (wallet or purse or payment)) or smart$card)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:33
S139	0	S138 and S133	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:33
S140	2180	(broadcast$3 near3 (sync or synchronize or synchronizing))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:34
S141	185	S140 and S133	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:34
S142	76668	time adj slot	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:35
S143	21	S141 and S142	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:35
S144	0	dynamically adj adjusting adj (time adj slot)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:42

INTEL-1008
U.S. Patent 8,457,672

S145	17	(dynamically adj adjusting) near5 (time adj slot)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:42
S146	0	S143 and S145	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:43
S147	1118	width near5 (time adj slot)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:54
S148	27	width near5 (time adj slot) same dynamic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2009/11/23 08:54

11/23/2009 10:38:40 AM
C:\Documents and Settings\lharris\My Documents\EAST\Workspaces\11620577.wsp

INTEL-1008
U.S. Patent 8,457,672

PTO/SB/80 (11-08)
Approved for use through 11/30/2011. OMB 0651-0035
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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☑ Practitioners associated with the Customer Number: 89194

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

☑ The address associated with Customer Number: 89194

OR

☐ Firm or Individual Name			
Address			
City		State	Zip
Country			
Telephone		Email	

Assignee Name and Address:

Proxense, LLP
689 NW Stonepine Drive
Bend, OR 97710-6818

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	2/22/10
Name	John Giobbi	Telephone	541-382-5745
Title	Chief Executive Officer		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 3 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.

Electronic Acknowledgement Receipt

EFS ID:	7160413
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	89194
Filer:	Elizabeth D. Ruzich/Esther Kim
Filer Authorized By:	Elizabeth D. Ruzich
Attorney Docket Number:	25000-12196
Receipt Date:	10-MAR-2010
Filing Date:	05-JAN-2007
Time Stamp:	12:47:48
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	Assignee showing of ownership per 37 CFR 3.73(b).	02095US373B.pdf	33912 98986331504c8fbcf19f1d7d278651a3c4b9aee3	no	2

Warnings:	
Information:	

2	Power of Attorney	ProxensePowerofAttorney.pdf	1014805 d19ae545af83ee177fab166e3f05eaf890f8db2a	no	1

Warnings:	
Information:	
Total Files Size (in bytes):	1048717

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.

New Applications Under 35 U.S.C. 111
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.

National Stage of an International Application under 35 U.S.C. 371
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.

New International Application Filed with the USPTO as a Receiving Office
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/96 (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.

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: David L. Brown, Fred S. Hirt

Application No./Patent No.: 11/620,577 Filed/Issue Date: January 5, 2007

Titled: DYNAMIC REAL-TIME TIERED CLIENT ACCESS

Proxense, LLC , a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;

2. ☐ an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is _____ %); or

3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy therefore is attached.

OR

B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: D. Brown, F. Hirt To: Proxense, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 018976 , Frame 0486 , or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
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3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
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☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Elizabeth Ruzich/ 3/5/10

Signature Date

Elizabeth Ruzich, Reg. No. 54,416 Attorney for Applicant

Printed or Typed Name Title

This collection of information is required by 37 CFR 3.73(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.**

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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.

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UNITED STATES DEPARTMENT OF COMMERCE
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Address: COMMISSIONER FOR PATENTS
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/620,577	01/05/2007	David L. Brown	25000-12196

CONFIRMATION NO. 9508

89194
Patent Law Works/Proxense
165 South Main St
Salt Lake City, UT 84111

POA ACCEPTANCE LETTER

OC000000040632709

Date Mailed: 03/22/2010

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/10/2010.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/hchristian/

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

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/620,577	01/05/2007	David L. Brown	25000-12196

CONFIRMATION NO. 9508

89194
Patent Law Works/Proxense
165 South Main St
Salt Lake City, UT 84111

POWER OF ATTORNEY NOTICE

OC000000040632683

Date Mailed: 03/22/2010

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/10/2010.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/hchristian/

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

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	David L. Brown and Fred S. Hirt
SERIAL NO.:	11/620,577
FILING DATE:	January 5, 2007
TITLE:	Dynamic Real-Time Tiered Client Access
EXAMINER:	Lauri Harris
GROUP ART UNIT:	2618
ATTY. DKT. NO.:	10001-02095

CERTIFICATE OF ELECTRONIC (EFS-WEB) TRANSMISSION

I hereby certify that this correspondence is being transmitted via the USPTO's EFS-Web interface in accordance with 37 C.F.R. § 1.8(a)(i)(C) from the Mountain Time Zone of the United States on the local date shown below:

Dated: April 1, 2010 By: /Elizabeth D. Ruzich/
Elizabeth D. Ruzich, Reg. No.: 54,416

COMMISSIONER FOR PATENTS
P. O. BOX 1450
ALEXANDRIA, VA 22313-1450

AMENDMENT A

This amendment to the patent application identified above is in response to the Office Action dated December 2, 2009, which sets a shortened statutory period for response that expires on March 2, 2010. A one-month extension is filed herewith.

Kindly amend this application as indicated below.

REMARKS

Claims 1-26 were presented for examination. In the Office Action dated December 2, 2009, claim 13 was objected to because it does not end with a period. Claims 1-26 were rejected. Claims 1, 5, 8, 12-14, 17, 20, 24 and 26 are amended. Support for these amendments can be found throughout the specification, for example, [0007] and [00125]. Claims 1-26 are pending upon entry of this amendment.

Objection

Claim 13 is objected to because it does not end with a period. Applicants amend claim 13 to add a period.

Summary of Rejections

Claims 1, 3-4, 8, 11, 20 and 22 are rejected under 35 U.S.C. § 102(b) as being anticipated by Shloss (USPN 5,307,349).[1]

Claims 2, 9-10 and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shloss in view of Bestler (USPN 5,517,502).

Claims 12-16, 17-19 and 24-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shloss in view of Beasley (US Pub. No. 2002/0177460).

Claims 5-6, 17 and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shloss in view of Barnay (USPN 7,068,623).

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Shloss in view of Rabe (USPN 6,138,010).

These rejections are now traversed.

[1] The Examiner rejects claims 1, 3-4, 8, 11, 20 and 22 "as being anticipated by Schloss US Patent No. 5,517,502." USPN 5,517,502, however, is by Bestler. Based on the citations used to compare the reference to the claims, Applicants believe that the Examiner intended to reject these claims based on Schloss and not Bestler.

Response to Rejections under 35 U.S.C. § 102

The rejections are addressed by reference to the independent claims.

Independent Claim 1

Applicants' amended claim 1 recites, in part:

> assigning a first specific time slot for a first client device to wirelessly communicate with a fixed proximity-based reader device that is set **according to a first class**; and
> assigning a second specific time slot for a second client device to wirelessly communicate with the fixed proximity-based reader device that is set **according to a second class**,
> wherein the first and second specific time slots are determined based on **synchronization information** wirelessly received by the first and second client devices.

The cited reference does not teach or suggest, among other things, "assigning a first specific time slot…that is set according to a first class," "assigning a second specific time slot…that is set according to a second class," and "wherein the first and second specific time slots are determined based on synchronization information."

Shloss discloses a TDMA network for reader-transponder communications.[2] Each transponder is assigned a time slot for communicating with the reader.[3] Shloss makes no mention of also assigning a time slot according to a class.

The Examiner concedes on page 6 of the Office Action with reference to claim 12 that Shloss does not disclose wirelessly broadcasting synchronization information to a portable client device, however, the Examiner asserts that Beasley discloses these features in paragraphs 114-116. Applicants disagree. For the Examiner's convenience, Applicants reproduce the relevant text from paragraph 115 below:

[2] Shloss, Abstract.
[3] Shloss, column 7, lines 23-28.

> **[0115]** Referring to **FIG. 8**, an example of a base station unit that has selected slot 2 during the initial synchronization process is shown. During synchronization, each transmit slot has been converted to a receive slot (e.g., slots **802**, **804** and **806**) where the base station unit listens for synchronization information from neighboring base stations (thereby acting as a sync client). A single unconverted slot, namely slot **808**,

Beasley at most discloses listening for sync information messages from other base stations. The sync information messages are for the purpose of synchronizing information *between base stations* and not synchronization for the purpose of determining time slots for communicating with single base station. As a result, Beasley does not disclose or suggest the above-quoted features of claim 1.

The cited references, whether taken alone or in combination, do not disclose or suggest every limitation of Applicants' claim 1. Claim 1 is therefore patentable over the cited references. Claims 2-7 incorporate the limitations of claim 1, and are therefore patentable over the cited references for at least the same reasons as claim 1.

Independent Claim 8

Applicants' amended claim 8 recites, in part:

> wherein the key device is arranged to communicate with the fixed reader device during a **time slot** based on a bit field stored in the key device that is set according to **a class**,
> wherein the time slot is determined based on **synchronization information** wirelessly received by the key device.

The cited references do not disclose or suggest the above-quoted elements of Applicants' claim 8 for at least the same reasons as those described for claim 1. Accordingly claim 8 is patentable over the cited references. Claims 9-11 incorporate the limitations of claim 8, and are therefore patentable over the cited references for at least the same reasons as claim 8.

Independent Claim 12

Applicants' amended claim 12 recites, in part:

> a portable client device arranged to wirelessly communicate data with the fixed

reader device when the client device is within the first wireless coverage range and during a time slot, the client device is further arranged to store a bit field that specifies the time slot, **the time slot being determined according to a class**,

wherein the time slot during which the client device communicates data with the fixed reader device is determined based on **synchronization information** received by the client device.

The cited references do not disclose or suggest the above-quoted elements of Applicants' claim 12 for at least the same reasons as those described for claim 1. Accordingly claim 12 is patentable over the cited references. Claims 13-19 incorporate the limitations of claim 12, and are therefore patentable over the cited references for at least the same reasons as claim 12.

Independent Claim 20

Applicants' amended claim 20 recites, in part:

a portable client device adapted to wirelessly communicate data with a reader device when the client device is located in communication proximity of the reader device, the client device adapted to store a bit field according to which the time slot is determined, **the time slot being set according to a class**,

wherein the client device is arranged to receive data from the network device during a time slot based on the **synchronization information**.

The cited references do not disclose or suggest the above-quoted elements of Applicants' claim 20 for at least the same reasons as those described for claim 1. Accordingly claim 20 is patentable over the cited references. Claims 21-23 incorporate the limitations of claim 20, and are therefore patentable over the cited references for at least the same reasons as claim 20.

Independent Claim 24

Applicants' amended claim 24 recites, in part:

a portable client device configured to **wirelessly receive the synchronization information**, the received synchronization information comprising information assigning a time slot during which the client device can receive data from the network device, **the time slot being determined according to a class**

The cited references do not disclose or suggest the above-quoted elements of Applicants' claim 24 for at least the same reasons as those described for claim 1. Accordingly claim 24 is

patentable over the cited references. Claims 25 incorporate the limitations of claim 24, and are therefore patentable over the cited references for at least the same reasons as claim 24.

Independent Claim 26

Applicants' amended claim 26 recites, in part:

> wirelessly broadcasting synchronization information to a portable client device, the **synchronization information comprising information assigning a time slot** during which the client device can receive data, **the time slot being determined according to a class**

The cited references do not disclose or suggest the above-quoted elements of Applicants' claim 26 for at least the same reasons as those described for claim 1. Accordingly claim 26 is patentable over the cited references.

Conclusion

Allowance of all claims is requested. If the Examiner believes that direct contact with the Applicants' attorney will advance the prosecution of this case, the Examiner is encouraged to contact the undersigned as indicated below.

Respectfully Submitted,
DAVID L. BROWN AND FRED S. HIRT

Date: April 1, 2010

By: /Elizabeth D. Ruzich/

Elizabeth D. Ruzich, Reg. No. 54,416
Attorney for Applicants
Patent Law Works LLP
165 South Main Street, 2nd Floor
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Fax: (801) 258-0160
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Electronic Patent Application Fee Transmittal

Application Number:	11620577
Filing Date:	05-Jan-2007
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Filer:	Elizabeth D. Ruzich/Connie Evenich
Attorney Docket Number:	10001-02095

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with $0 paid	2251	1	65	65

INTEL-1008
U.S. Patent 8,457,672

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	65

Electronic Acknowledgement Receipt

EFS ID:	7337620
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	89194
Filer:	Elizabeth D. Ruzich
Filer Authorized By:	
Attorney Docket Number:	10001-02095
Receipt Date:	01-APR-2010
Filing Date:	05-JAN-2007
Time Stamp:	17:05:35
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$65
RAM confirmation Number	3483
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

INTEL-1008
U.S. Patent 8,457,672

1	Amendment/Req. Reconsideration-After Non-Final Reject	02095_Amendment_A.pdf	126915 6df49673ed5a8c8339454f4868af72d7309f0ef8	no	11
Warnings:					
Information:					
2	Fee Worksheet (PTO-875)	fee-info.pdf	29772 6ac8788c8a35161a49596d79a528a5edaaa5e928	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	156687		

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.

New Applications Under 35 U.S.C. 111
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.

National Stage of an International Application under 35 U.S.C. 371
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.

New International Application Filed with the USPTO as a Receiving Office
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.

IN THE CLAIMS:

All pending claims and their present status are produced below.

1. (Currently Amended) A method of facilitating data exchange, comprising:

assigning a first specific time slot for a first client device to wirelessly communicate with a fixed proximity-based reader device that is set according to a first class; and

assigning a second specific time slot for a second client device to wirelessly communicate with the fixed proximity-based reader device that is set according to a second class,

wherein the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices.

2. (Original) The method of claim 1, further comprising:

dynamically adjusting at least one of the first specific time slot and the second specific time slot.

3. (Original) The method of claim 1, wherein assigning the first specific time slot comprises:

masking a bit field of the first client device.

4. (Original) The method of claim 3, wherein the mask is wirelessly communicated to the first client device.

5. (Currently Amended) The method of claim 1, wherein the first class comprises ~~assigning the first specific time slot is dependent on a class of~~ at least one of a user associated with the first client device and a class of the first client device.

6. (Original) The method of claim 1, wherein assigning the first specific time slot is dependent on a network traffic load.

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U.S. Patent 8,457,672

7. (Original) The method of claim 1, further comprising:

reassigning the first specific time slot to a third client device in response to a detection that the first client device is unavailable.

8. (Currently Amended) An apparatus, comprising:

a physical, portable key device adapted to wirelessly communicate data with a fixed reader device when located in a wireless coverage area of the fixed reader device,

wherein the key device is arranged to communicate with the fixed reader device during a time slot ~~determined~~ based on a bit field stored in the key device that is set according to a class,

wherein the time slot is determined based on synchronization information wirelessly received by the key device.

9. (Original) The apparatus of claim 8, wherein the time slot is adjustable dependent on a mask applied to the bit field.

10. (Original) The apparatus of claim 9, wherein the mask is determined external to the key device.

11. (Original) The apparatus of claim 8, wherein the bit field represents an identification of the key device.

12. (Currently Amended) A system, comprising:

a fixed reader device operatively connected to a network device and having a first wireless coverage range within a second wireless coverage range; and

a portable client device arranged to wirelessly communicate data with the fixed reader device when the client device is within the first wireless coverage range and during a time slot, the client device further arranged to store a bit field that specifies the time slot, the time slot being determined

according to a class,

wherein ~~a~~ the time slot during which the client device communicates data with the fixed reader device is determined based on synchronization information received by the client device.

13. (Currently Amended) The system of claim 12, further comprising:

a network device arranged to wirelessly broadcast the synchronization information in the second wireless coverage range~~;~~ .

14. (Currently Amended) The system of claim 12, wherein the ~~client device is further arranged to store a bit field according to which the time slot is determined~~ bit field is dynamically altered to alter access to the network as a traffic load on the network changes.

15. (Original) The system of claim 14, wherein the synchronization information comprises a mask for application to the bit field.

16. (Original) The system of claim 12, wherein the synchronization information is dependent on a traffic load in the system.

17. (Currently Amended) The system of claim 12, wherein the ~~synchronization information is dependent on~~ class comprises at least one of a class of a user associated with the client device and a class of the client device.

18. (Original) The system of claim 12, wherein the network device is further arranged to dynamically alter the synchronization information to modify the time slot during which the client device communicates with the fixed reader device.

19. (Original) The system of claim 12, wherein the time slot is determined based on a tier status of the client device.

20. (Currently Amended) A system, comprising:

a network device arranged to wirelessly broadcast synchronization information in a first wireless coverage range; and

a portable client device adapted to wirelessly communicate data with a reader device when the client device is located in communication proximity of the reader device, the client device adapted to store a bit field according to which a time slot is determined, the time slot being set according to a class,

wherein the client device is arranged to receive data from the network device during ~~a~~ the time slot ~~determined~~ based on the synchronization information.

21. (Original) The system of claim 20, wherein the client device is further arranged to transmit data to the network device during the time slot.

22. (Original) The system of claim 20, wherein the time slot is determined based on a mask applied to a bit field stored in the client device, and wherein the mask is wirelessly communicated to the client device as part of the synchronization information wirelessly broadcasted by the network device.

23. (Original) The system of claim 20, wherein the synchronization information is dependent on at least one of a user associated with the client device, a class of a user associated with the client device, a class of the client device, and a network traffic load in the system.

24. (Currently Amended) A system, comprising:

a network device configured to wirelessly broadcast synchronization information; and

a portable client device configured to wirelessly receive the synchronization information, the received synchronization information comprising information assigning a time slot during which the client device can receive data from the network device, the time slot being determined

according to a class.

25. (Original) The system of claim 24, further comprising:

a reader device configured to proximity sense the client device, and further configured to communicate data with the client device in accordance with the synchronization information.

26. (Currently Amended) A method of facilitating data exchange, comprising:

wirelessly broadcasting synchronization information to a portable client device, the synchronization information comprising information assigning a time slot during which the client device can receive data, the time slot being determined according to a class; and

wirelessly broadcasting data for reception by the client device during the time slot.

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PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
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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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 11/620,577	Filing Date 01/05/2007	☐ To be Mailed

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☒		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 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).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	04/01/2010	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 26	Minus	** 26	= 0	X $26 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 6	Minus	***6	= 0	X $110 =	0	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	0	OR	TOTAL ADD'L FEE	

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	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 number found in the appropriate box in column 1.

Legal Instrument Examiner:
/DAWN BREWER/

This collection of information is required by 37 CFR 1.16. 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, 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.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. 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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 11/620,577	Filing Date 01/05/2007	☐ To be Mailed

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☒		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 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).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

		(Column 1)		(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
	04/01/2010	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	Total (37 CFR 1.16(i))	* 26	Minus	** 26	= 0	X $26 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 6	Minus	***6	= 0	X $110 =	0	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	0	OR	TOTAL ADD'L FEE	

		(Column 1)		(Column 2)	(Column 3)					
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	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 number found in the appropriate box in column 1.

Legal Instrument Examiner:
/DAWN BREWER/

This collection of information is required by 37 CFR 1.16. 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, 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.**

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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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/620,577	01/05/2007	David L. Brown	10001-02095	9508

89194 7590 06/28/2010

Patent Law Works/Proxense
165 South Main St
Salt Lake City, UT 84111

EXAMINER	
REGO, DOMINIC E	
ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
06/28/2010	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):

eruzich@patentlawworks.net
docketing@patentlawworks.net
gsueoka@patentlawworks.net

PTOL-90A (Rev. 04/07)

INTEL-1008
U.S. Patent 8,457,672

Office Action Summary	Application No.	Applicant(s)	
	11/620,577	BROWN ET AL.	
	Examiner	Art Unit	
	DOMINIC E. REGO	2618	

-- 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 *01 April 2010*.

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

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

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

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

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

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

8)☒ Claim(s) *1-26* are subject to restriction and/or election requirement.

Application Papers

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

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

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

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

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

Priority under 35 U.S.C. § 119

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

a)☐ All b)☐ Some * c)☐ None of:

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

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

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

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

Attachment(s)

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

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-11, 20-26 drawn to assigning a first specific time slot for a first client device to wirelessly communicate with a fixed proximity-based reader device that is set according to a first class and assigning a second specific time slot for a second client device to wirelessly communicate with a fixed proximity-based reader device that is set according to a second class, classified in class 455, subclass 502.

II. Claims 12-19 drawn to a fixed reader device operatively connected to a network device and having a first wireless coverage range within a second wireless coverage range and a portable client device wirelessly communicate data with the fixed reader device when the client device is within the first wireless coverage range, classified in class 455, subclass 443.

2. The inventions are distinct, each from the other because of the following reasons:

Subcombination-Usable Together

3. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope

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U.S. Patent 8,457,672

and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, inventions I has separate utility such as assigning a first specific time slot for a first client device and a second specific time slot for a second client device and wirelessly communicate with a fixed proximity-based reader device that is set according to a first to first client device and a second class to second client device. Invention II has separate utility such as a fixed reader device operatively connected to a network device and having a first wireless coverage range within a second wireless coverage range and a portable client device wirelessly communicate data with the fixed reader device when the client device is within the first wireless coverage range. See MPEP § 806.05(d).

4. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

5. Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

6. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

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U.S. Patent 8,457,672

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve 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 restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species 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 inventions 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 invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E. REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 8:30 am-5 pm.

INTEL-1008
U.S. Patent 8,457,672

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. 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.

/Dominic E Rego/
Examiner, Art Unit 2618
Tel 571-272-8132

INTEL-1008
U.S. Patent 8,457,672

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11620577	BROWN ET AL.
	Examiner	Art Unit
	DOMINIC E REGO	2618

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

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

CLAIM		DATE								
Final	Original	11/17/2009	06/19/2010							
	1	✓	÷							
	2	✓	÷							
	3	✓	÷							
	4	✓	÷							
	5	✓	÷							
	6	✓	÷							
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	23	✓	÷							
	24	✓	÷							
	25	✓	÷							
	26	✓	÷							

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	David L. Brown and Fred S. Hirt
SERIAL NO.:	11/620,577
FILING DATE:	January 5, 2007
TITLE:	Dynamic Real-Time Tiered Client Access
EXAMINER:	Lauri Harris
GROUP ART UNIT:	2618
ATTY. DKT. NO.:	10001-02095

CERTIFICATE OF ELECTRONIC (EFS-WEB) TRANSMISSION

I hereby certify that this correspondence is being transmitted via the USPTO's EFS-Web interface in accordance with 37 C.F.R. § 1.8(a)(i)(C) from the Mountain Time Zone of the United States on the local date shown below:

Dated: July 14, 2010 By: /Elizabeth D. Ruzich/
Elizabeth D. Ruzich, Reg. No.: 54,416

COMMISSIONER FOR PATENTS
P. O. BOX 1450
ALEXANDRIA, VA 22313-1450

RESPONSE TO RESTRICTION REQUIREMENT

Sir:

Responsive to the Office Action mailed June 28, 2010, which sets a shortened statutory period for response that expires on July 28, 2010, please enter the following restriction election and consider the following remarks.

IN THE CLAIMS

All pending claims are reproduced below.

1. (Previously Presented) A method of facilitating data exchange, comprising:

assigning a first specific time slot for a first client device to wirelessly communicate with a fixed proximity-based reader device that is set according to a first class; and

assigning a second specific time slot for a second client device to wirelessly communicate with the fixed proximity-based reader device that is set according to a second class,

wherein the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices.

2. (Original) The method of claim 1, further comprising:

dynamically adjusting at least one of the first specific time slot and the second specific time slot.

3. (Original) The method of claim 1, wherein assigning the first specific time slot comprises:

masking a bit field of the first client device.

4. (Original) The method of claim 3, wherein the mask is wirelessly communicated to the first client device.

5. (Previously Present) The method of claim 1, wherein the first class comprises at least one of a user associated with the first client device and a class of the first client device.

6. (Original) The method of claim 1, wherein assigning the first specific time slot is dependent on a network traffic load.

7. (Original) The method of claim 1, further comprising:

reassigning the first specific time slot to a third client device in response to a detection that the first client device is unavailable.

8. (Previously Presented) An apparatus, comprising:

a physical, portable key device adapted to wirelessly communicate data with a fixed reader device when located in a wireless coverage area of the fixed reader device,

wherein the key device is arranged to communicate with the fixed reader device during a time slot based on a bit field stored in the key device that is set according to a class,

wherein the time slot is determined based on synchronization information wirelessly received by the key device.

9. (Original) The apparatus of claim 8, wherein the time slot is adjustable dependent on a mask applied to the bit field.

10. (Original) The apparatus of claim 9, wherein the mask is determined external to the key device.

11. (Original) The apparatus of claim 8, wherein the bit field represents an identification of the key device.

12-19. (Cancelled).

20. (Previously Presented) A system, comprising:

a network device arranged to wirelessly broadcast synchronization information in a first wireless coverage range; and

a portable client device adapted to wirelessly communicate data with a reader device when the client device is located in communication proximity of the reader device, the client device adapted to store a bit field according to

which a time slot is determined, the time slot being set according to a class,

wherein the client device is arranged to receive data from the network device during the time slot based on the synchronization information.

21. (Original) The system of claim 20, wherein the client device is further arranged to transmit data to the network device during the time slot.

22. (Original) The system of claim 20, wherein the time slot is determined based on a mask applied to a bit field stored in the client device, and wherein the mask is wirelessly communicated to the client device as part of the synchronization information wirelessly broadcasted by the network device.

23. (Original) The system of claim 20, wherein the synchronization information is dependent on at least one of a user associated with the client device, a class of a user associated with the client device, a class of the client device, and a network traffic load in the system.

24. (Previously Presented) A system, comprising:

a network device configured to wirelessly broadcast synchronization information; and

a portable client device configured to wirelessly receive the synchronization information, the received synchronization information comprising information assigning a time slot during which the client device can receive data from the network device, the time slot being determined according to a class.

25. (Original) The system of claim 24, further comprising:

a reader device configured to proximity sense the client device, and further configured to communicate data with the client device in accordance with the synchronization information.

26. (Previously Presented) A method of facilitating data exchange, comprising:

wirelessly broadcasting synchronization information to a portable client device, the synchronization information comprising information assigning a time slot during which the client device can receive data, the time slot being determined according to a class; and

wirelessly broadcasting data for reception by the client device during the time slot.

REMARKS

Claims 1-26 were pending. Claims 12-19 are cancelled. Claims 1-11 and 20-26 remain pending upon entry of this amendment.

Election/Restriction

The Examiner restricted the claims between Invention I (claims 1-11 and 20-26) and Invention II (claims 12-19). Applicants elect Invention I without traverse. Applicants cancel claims 12-19.

CONCLUSION

Allowance of all claims is requested. If the Examiner believes that direct contact with Applicants' attorney will advance the prosecution of this case, the Examiner is encouraged to contact the undersigned as indicated below.

Respectfully Submitted,
DAVID L. BROWN AND FRED S. HIRT

Date: July 14, 2010

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Electronic Acknowledgement Receipt

EFS ID:	8016097
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Response to Election / Restriction Filed	02095_Response_to_Restriction_Requirement.pdf	79496 b37803645cfa82847430e81ee8d0eeff01c740ce	no	6

Warnings:	
Information:	

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Total Files Size (in bytes):	79496

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.

New Applications Under 35 U.S.C. 111
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.

National Stage of an International Application under 35 U.S.C. 371
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.

New International Application Filed with the USPTO as a Receiving Office
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.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/620,577	01/05/2007	David L. Brown	10001-02095	9508

89194 7590 09/29/2010

Patent Law Works/Proxense
165 South Main St
Salt Lake City, UT 84111

EXAMINER	
REGO, DOMINIC E	
ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
09/29/2010	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):

docketing@patentlawworks.net
gsueoka@patentlawworks.net
bbrannon@patentlawworks.net

PTOL-90A (Rev. 04/07)

Office Action Summary	Application No.	Applicant(s)	
	11/620,577	BROWN ET AL.	
	Examiner	Art Unit	
	DOMINIC E. REGO	2618	

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

Period for Reply

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

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

Status

1)☒ Responsive to communication(s) filed on *14 July 2010*.

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

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

Disposition of Claims

4)☒ Claim(s) *1-11 and 20-26* is/are pending in the application.

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

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 20-26* is/are rejected.

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

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

Application Papers

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

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

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

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

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

Priority under 35 U.S.C. § 119

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

a)☐ All b)☐ Some * c)☐ None of:

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

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

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

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

Attachment(s)

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

DETAILED ACTION

1. This communication is responsive to the application filed on July 14, 2010.

Claims 1-11 and 20-26 are pending and presented for prosecution.

Claims 1,5,8,20,24, and 26 have been amended.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1,8,20,24, and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claimed limitations "assigning a first specific time slot for a first client device to wirelessly communicate with a fixed proximity-based reader device that is set according to a first class or according to a second class or according to a class" are not found in the specification and non-enabling to further prosecute.

Claim Objections

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Claims 8 and 20 are objected to because of the following informalities: Applicant uses the word "adapted to" to the above claims where claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure (See MPEP 2111.04 [R-3]; MPEP 2106 [R-5]). Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 24 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakagawa et al. (US Pub. No. 2006/0205408).

Regarding claim 24, Nakagawa teaches a system, comprising:

a network device configured to wirelessly broadcast synchronization information; and a portable client device configured to wirelessly receive the synchronization information, the received synchronization information comprising information assigning a time slot during which the client device can receive data

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from the network device, the time slot being determined according to a class (Paragraphs 0067-0074, especially paragraphs 0067 and 0074).

Regarding claim 26, Nakagawa teaches a method of facilitating data exchange, comprising: wirelessly broadcasting synchronization information to a portable client device, the synchronization information comprising information assigning a time slot during which the client device can receive data, the time slot being determined according to a class; and wirelessly broadcasting data for reception by the client device during the time slot (Paragraphs 0067-0074, especially paragraphs 0067 and 0074).

Claim Rejections - 35 USC § 103

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

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

7. Claims 1,3,4,8,10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Nakagawa et al. (US Pub. No. 2006/0205408).

Regarding claim 1, Shloss teaches a method of facilitating data exchange, comprising:

assigning a first specific time slot for a first client device (assigning a time

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slot of a transponder) (Figure 2, Item 114; column 7, lines 23-45) to wirelessly communicate with a fixed proximity-based reader (reader) device that is set according to a first class (Figure 2, Item 102; column 3, lines 59-66); and

assigning a second specific time slot for a second client device to wirelessly communicate with the fixed proximity-based reader device that is set according to a second class (shows that Item 114 of Figure 2 is an example of multiple transponders) (column 7, lines 58-67), but does not specifically teach wherein the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices.

However, in related art, Nakagawa teaches wherein the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices *(See Fig. 1, and paragraphs 0067-0074, especially paragraph 0067, Nakagawa teaches the first radio communication apparatus 10 (PDA, PC, or Mobile phone) is a node X. Paragraph 0074 teaches when receiving the set-up information necessary for communications with the node Y, the node X stores the set-up information in the storage section 15, and then performs transmitting and receiving of data signals directly with the node Y in accordance with the set-up information. The node X also performs processing for receiving a signal from the base station 30, obtaining information for synchronization included in a predetermined time slot of the received signal, and setting timing for communications with the node Y so that it corresponds to the communication timing in the mobile communications*

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network, based on the synchronization information). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Nakagawa to Shloss in order to improve communication characteristics and enhance the communication capacity and the throughput of the entire network.

Regarding claim 3, the combination of Shloss and Nakagawa teach all the claimed elements in claim 1. In addition, Shloss teaches a method of claim 1, wherein assigning the first specific time slot comprises: masking a bit field of the first client device (Figure 4; column 10, lines 29-53).

Regarding claim 4, the combination of Shloss and Nakagawa teach all the claimed elements in claim 3. In addition, Shloss teaches method of claim 3, wherein the mask is wirelessly communicated to the first client device (Figure 4; column 10, lines 29-53).

Regarding claim 8, Shloss teaches an apparatus, comprising:

a physical, portable key device adapted to wirelessly communicate data (transponder) (column 8, lines 44-52) with a fixed reader device when located in a wireless coverage area of the fixed

reader device, wherein the key device is arranged to communicate with the fixed reader device during a time slot based on a bit field stored in the key device that is set according to a class (a unique identification number is stored in memory and used to gain access to the network) (column 8, lines 43-52) (transponder time slot assignments) (column 7, lines 42-45), but does not specifically teach

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wherein the time slot is determined based on synchronization information wirelessly received by the key device.

However, in related art, Nakagawa teaches wherein the time slot is determined based on synchronization information wirelessly received by the key device *(See Fig. 1, and paragraphs 0067-0074, especially paragraph 0067, Nakagawa teaches the first radio communication apparatus 10 (PDA, PC, or Mobile phone) is a node X. Paragraph 0074 teaches when receiving the set-up information necessary for communications with the node Y, the node X stores the set-up information in the storage section 15, and then performs transmitting and receiving of data signals directly with the node Y in accordance with the set-up information. The node X also performs processing for receiving a signal from the base station 30, obtaining information for synchronization included in a predetermined time slot of the received signal, and setting timing for communications with the node Y so that it corresponds to the communication timing in the mobile communications network, based on the synchronization information).* Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Nakagawa to Shloss in order to improve communication characteristics and enhance the communication capacity and the throughput of the entire network.

Regarding claim 10, Shloss discloses an apparatus of claim 9, wherein the mask is determined external to the key device *(sixty-four bit seed field is formed by the reader) (column 9, lines 65-68).*

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Regarding claim 11, the combination of Shloss and Nakagawa teach all the claimed elements in claim 8. In addition, Shloss teaches the apparatus of claim 8, wherein the bit field represents an identification of the key device (unique identification number) (column 8, lines 43-52).

8. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Nakagawa et al. (US Pub. No. 2006/0205408) and further in view of Bestler US Patent No. 5,517,502.

Regarding claim 2, the combination of Shloss and Nakagawa teach all the claimed elements in claim 1. In addition, Shloss discloses setting time slots and changing the time slots based on network traffic (column 8, lines 43-52), but does not specifically disclose the method of claim 1, further comprising: dynamically adjusting at least one of the first specific time slot and the second specific time slot.

However, in related art, Bestler discloses the method of claim 1, further comprising: dynamically adjusting at least one of the first specific time slot and the second specific time slot *(Column 4, lines 48-58 teach the width and timing location of the time slots for a subscriber terminal are programmably controlled from the headend to accommodate dynamic changes within the network and making adjustments to the time slots or controlling the width and number of the time slots)*. Therefore, it would have been obvious to one of ordinary skill in the

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art at the time of the invention to provide the above teaching of Bestler to Shloss and Nakagawa in order to improve overall throughput.

Regarding claim 9, the combination of Shloss and Nakagawa teach all the claimed elements in claim 8. In addition, Shloss teaches adjusting the time slot for another time slot based on the mask (slots are identified by letter codes or masks and are adjusted dependent on those masks) (column 10, lines 38-67), but does not teach the apparatus of claim 8, wherein the time slot is adjustable dependent on a mask applied to the bit field.

However, in related art, Bestler teaches the apparatus of claim 8, wherein the time slot is adjustable dependent on a mask applied to the bit field *(Column 4, lines 48-58 teach the width and timing location of the time slots for a subscriber terminal are programmably controlled from the headend to accommodate dynamic changes within the network and making adjustments to the time slots or controlling the width and number of the time slots)*. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Bestler to Shloss and Nakagawa in order to improve overall throughput.

9. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Nakagawa et al. (US Pub. No. 2006/0205408) and further in view of Barany et al. (US Pub. No. 7,068,623).

Regarding claim 5, the combination of Shloss and Nakagawa fail to teach

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the method of claim 1, wherein the first class comprises at least one of a user associated with the first client device and a class of the first client device.

However, in related art, Barany teaches the method of claim 1, wherein the first class comprises at least one of a user associated with the first client device (full-rate voice user) (column 5, lines 27-49) and a class of the first client device (see second obviousness statement below). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Shloss's time slot assignment by Barany's time slot assignment based on class because Barany states that this method of time slot assignment provides for dedicated or limited sharing which as is well known in the art would reduce collisions (column 6, lines 30-37). It would also have been obvious to one of ordinary skill in the art at the time of the invention to implement a class associated with devices as well as a class associated with users because just like users all devices do not use the network bandwidth the same a pager providing texting capabilities versus a cell phone providing voice capabilities.

Regarding claim 6, the combination of Shloss and Nakagawa fail to teach the method of claim 1, wherein assigning the first specific time slot is dependent on a network traffic load.

However, in related art, Barany teaches the method of claim 1, wherein assigning the first specific time slot is dependent on a network traffic load (assigning based on different traffic classes) (column 5, line 51-column 6, line 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Shloss's time slot assignment by Barany's time slot

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assignment based on traffic because Barany states that a multiplexer may be used in silent periods to combine flow of the network traffic reducing possible traffic collisions (column 6, lines 20-37).

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Nakagawa et al. (US Pub. No. 2006/0205408) and further in view of Rabe US Patent No. 6,138,010.

Regarding claim 7, the combination of Shloss and Nakagawa fail to teach the method of claim 1, further comprising: reassigning the first specific time slot to a third client device in response to a detection that the first client device is unavailable.

However, in related art, Rabe teaches the method of claim 1, further comprising: reassigning the first specific time slot to a third client device in response to a detection that the first client device is unavailable (inactive idle messages indicates that the communication device will be unavailable during an idle duration and the time slot and frequency may be reassigned during this unavailable period) (column 10, line 52-column 11, line 11). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Shloss and Nakagawa's time slot assignment by Rabe's reassignment or unused time slots because Rabe states this permits use of the time slots when the first client device would not be using the time slots (column 6, lines 55-67).

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11. Claims 20, 22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408) in view of Shloss et al. (US Patent #5,307,349).

Regarding claim 20, Nakagawa teaches a system, comprising:

a network device arranged to wirelessly broadcast synchronization information in a first wireless coverage range (Paragraphs 0067 and 0074); and

wherein the client device is arranged to receive data from the network device during the time slot based on the synchronization information (Paragraphs 0067 and 0074), but does not specifically teach a portable client device adapted to wirelessly communicate data with a reader device when the client device is located in communication proximity of the reader device, the client device adapted to store a bit field according to which a time slot is determined, the time slot being set according to a class.

However, in related art, Shloss teaches a portable client device adapted to wirelessly communicate data with a reader device when the client device is located in communication proximity of the reader device (transponder) (column 8, lines 44-52), the client device adapted to store a bit field according to which a time slot is determined, the time slot being set according to a class (column 7, lines 23-34). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Shloss to Nakagawa in order to properly transmit the signal to the target reader.

Regarding claim 22, the combination of Nakagawa and Shloss teach all

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the claimed elements in claim 20. In addition, Shloss teaches the system of claim 20, wherein the time slot is determined based on a mask applied to a bit field stored in the client device, and wherein the mask is wirelessly communicated to the client device as part of the synchronization information wirelessly broadcasted by the network device (column 10, line 54-column 11, line 7).

Regarding claim 25, Nakagawa teaches the system of claim 24, further comprising: communicate data with the client device in accordance with the synchronization information (Paragraph 0074), but does not specifically teach a reader device configured to proximity sense the client device.

However, in related art, Shloss teaches a reader device configured to proximity sense the client device (short range within 100 feet) (column 7, lines 46-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Shloss to Nakagawa in order to properly transmit the signal to the target reader.

12. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408) in view of Shloss et al. (US Patent #5,307,349) and further in view of Bestler et al. (US Patent No. 5,517,502).

Regarding claim 21, the combination of Nakagawa and Shloss teach all the claimed elements in claim 20. In addition, Shloss discloses setting time slots and changing the time slots based on network traffic (column 8, lines 43-52), but

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does not specifically disclose the system of claim 20, wherein the client device is further arranged to transmit data to the network device during the time slot.

However, in related art, Bestler discloses the system of claim 20, wherein the client device is further arranged to transmit data to the network device during the time slot *(Column 4, lines 48-58 teach the width and timing location of the time slots for a subscriber terminal are programmably controlled from the headend to accommodate dynamic changes within the network and making adjustments to the time slots or controlling the width and number of the time slots).* Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Bestler to Nakagawa and Shloss in order to improve overall throughput.

13. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408) in view of Shloss et al. (US Patent #5,307,349) and further in view of Barany et al. (US Pub. No. 7,068,623).

Regarding claim 23, the combination of Nakagawa and Shloss fail to teach the system of claim 20, wherein the synchronization information is dependent on at least one of a user associated with the client device, a class of a user associated with the client device, a class of the client device, and a network traffic load in the system.

However, in related art, Barany teaches the system of claim 20, wherein the synchronization information is dependent on at least one of a user associated

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with the client device, a class of a user associated with the client device, a class of the client device, and a network traffic load in the system (assigning based on different traffic classes) (column 5, line 51-column 6, line 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Nakagawa and Shloss time slot assignment by Barany's time slot assignment based on traffic because Barany states that a multiplexer may be used in silent periods to combine flow of the network traffic reducing possible traffic collisions (column 6, lines 20-37).

EXAMINER'S NOTE: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. SEE MPEP 2141.02 [R-5] VI. PRIOR ART MUST BE CONSIDERED IN ITS ENTIRETY, INCLUDING DISCLOSURES THAT TEACH AWAY FROM THE CLAIMS: A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983),

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cert. denied, 469 U.S. 851 (1984) In re Fulton, 391 F.3d 1195, 1qw201,73 USPQ2d 1141, 1146 (Fed. Cir. 2004). >See also MPEP §2123.

Response to Arguments

14. Applicant's arguments with respect to claims 1-11 and 20-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E. REGO whose telephone number

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is (571)272-8132. The examiner can normally be reached on Monday-Friday, 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. 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.

/Dominic E Rego/
Examiner, Art Unit 2618
Tel 571-272-8132

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Notice of References Cited	Application/Control No. 11/620,577	Applicant(s)/Patent Under Reexamination BROWN ET AL.	
	Examiner DOMINIC E. REGO	Art Unit 2618	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2007/0174809	07-2007	Brown et al.	717/100
*	B	US-2006/0205408	09-2006	Nakagawa et al.	455/445
*	C	US-2005/0201389	09-2005	Shimanuki et al.	370/395.61
*	D	US-7,724,720	05-2010	Korpela et al.	370/342
*	E	US-7,620,184	11-2009	Marque Pucheu, Gerard	380/270
*	F	US-6,891,822	05-2005	Gubbi et al.	370/345
*	G	US-6,795,425	09-2004	Raith, Alex Krister	370/345
*	H	US-6,279,146	08-2001	Evans et al.	716/18
*	I	US-5,760,705	06-1998	Glessner et al.	340/7.21
*	J	US-5,689,529	11-1997	Johnson, Neldon P.	375/259
*	K	US-5,506,863	04-1996	Meidan et al.	375/134
*	L	US-5,410,588	04-1995	Ito, Koichi	455/502
*	M	US-5,317,572	05-1994	Satoh, Junichi	370/509

FOREIGN PATENT DOCUMENTS

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

NON-PATENT DOCUMENTS

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

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

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11620577	BROWN ET AL.
	Examiner	Art Unit
	DOMINIC E REGO	2618

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

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

CLAIM		DATE								
Final	Original	11/17/2009	06/19/2010	09/23/2010						
	1	✓	÷	✓						
	2	✓	÷	✓						
	3	✓	÷	✓						
	4	✓	÷	✓						
	5	✓	÷	✓						
	6	✓	÷	✓						
	7	✓	÷	✓						
	8	✓	÷	✓						
	9	✓	÷	✓						
	10	✓	÷	✓						
	11	✓	÷	✓						
	12	✓	÷	-						
	13	✓	÷	-						
	14	✓	÷	-						
	15	✓	÷	-						
	16	✓	÷	-						
	17	✓	÷	-						
	18	✓	÷	-						
	19	✓	÷	-						
	20	✓	÷	✓						
	21	✓	÷	✓						
	22	✓	÷	✓						
	23	✓	÷	✓						
	24	✓	÷	✓						
	25	✓	÷	✓						
	26	✓	÷	✓						

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11620577	BROWN ET AL.
	Examiner	**Art Unit**
	LAURI HARRIS	2618

SEARCHED			
Class	**Subclass**	**Date**	**Examiner**
455	41.2	11/17/2009	LH
455	3.02, 13.2,502	9/23/2010	DR
375	145,149,240.28,293,355-257,262,363-365,368,370	9/23/2010	DR
Above	Updated	9/23/2010	DR

SEARCH NOTES		
Search Notes	**Date**	**Examiner**
assignee/inventor	11/17/2009	LH
EAST	11/17/2009	LH
PLUS	11/17/2009	LH
IEEE/Google	11/17/2009	LH
Updated EAST search	9/23/2010	DR

INTERFERENCE SEARCH			
Class	**Subclass**	**Date**	**Examiner**

/LAURI HARRIS/ Examiner.Art Unit 2618	

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S11	10	(first same second) near2 time near2 slot same determin$3 same synchroniz $5 same second near2 (cellular cell adj phone mobile portable pda terminal device ue user adj equipment wireless phone telephone cordless hand$held hand adj held ms wtru subscriber station $1)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/21 22:53
S18	15	(first same second) near2 time near2 slot with determin$3 with synchroniz$5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/22 09:54
S19	14	S18 and (@ad <= "20070105" @rlad <= "20070105" @pd <= "20070105")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/22 09:55
S21	46	time near2 slots with determin$5 with synchroniz$5 near2 information	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/23 11:14
S22	42	S21 and (@ad <= "20070105" @rlad <= "20070105" @pd <= "20070105")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/23 11:14

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S23	38	S21 and (@ad <= "20060106" @rlad <= "20060106" @pd <= "20060106")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/23 11:19

9/24/2010 10:09:07 AM
C:\Documents and Settings\drego\My Documents\EAST\Workspaces\11620577.wsp

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IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

APPLICANTS:	David L. Brown et al.
APPLICATION NO.:	11/620,577
FILING DATE:	January 5, 2007
TITLE:	Dynamic Real-Time Tiered Client Access
EXAMINER:	Dominic E. Rego
GROUP ART UNIT:	2618
ATTY. DKT. NO.:	10001-02095

CERTIFICATE OF EFS-WEB TRANSMISSION

Pursuant to 240 OG 45 and the Legal Framework For EFS-Web, I hereby certify that this follow-on correspondence is being officially submitted through the USPTO EFS-Web system from the Pacific Time Zone of the United States on the local date shown below:

Dated: November 29, 2010 By: /Brian G. Brannon/

Brian G. Brannon, Reg. No. 57,219

COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

AMENDMENT B

Sir/Madam:

Responsive to the Office Action mailed on September 29, 2010, which sets a shortened statutory period for response that expires on December 29, 2010, please enter the following amendment and consider the following remarks.

IN THE CLAIMS

All pending claims and their present status are produced below. Please amend claims 1, 8, 20 and 24 as indicated herein.

1. (Currently Amended) A method of facilitating data exchange, comprising:

assigning a first specific time slot for a first client device to wirelessly communicate with a fixed proximity-based reader device, the first specific time slot ~~that is~~ set according to a first class; and

assigning a second specific time slot for a second client device to wirelessly communicate with the fixed proximity-based reader device, the second specific time slot ~~that is~~ set according to a second class,

wherein the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class.

2. (Original) The method of claim 1, further comprising:

dynamically adjusting at least one of the first specific time slot and the second specific time slot.

3. (Original) The method of claim 1, wherein assigning the first specific time slot comprises:

masking a bit field of the first client device.

4. (Original) The method of claim 3, wherein the mask is wirelessly communicated to the first client device.

5. (Previously Presented) The method of claim 1, wherein the first class comprises at least one of a user associated with the first client device and a class of the first client device.

6. (Original) The method of claim 1, wherein assigning the first specific time slot is dependent on a network traffic load.

7. (Original) The method of claim 1, further comprising:

reassigning the first specific time slot to a third client device in response to a detection that the first client device is unavailable.

8. (Currently Amended) An apparatus, comprising:

a physical, portable key device for ~~adapted to~~ wirelessly communicating ~~communicate~~ data with a fixed reader device when located in a wireless coverage area of the fixed reader device,

wherein the physical, portable key device is arranged to communicate with the fixed reader device during a time slot identified by ~~based on~~ a bit field stored in the key device, the time slot ~~that is~~ set according to a class associated with the physical, portable key device,

wherein the bit field ~~time slot~~ is determined based on synchronization information

wirelessly received by the key device and priority level data associated with the class.

9. (Original) The apparatus of claim 8, wherein the time slot is adjustable dependent on a mask applied to the bit field.

10. (Original) The apparatus of claim 9, wherein the mask is determined external to the key device.

11. (Original) The apparatus of claim 8, wherein the bit field represents an identification of the key device.

12-19. (Cancelled).

20. (Currently Amended) A system, comprising:

a network device arranged to wirelessly broadcast synchronization information in a first wireless coverage range; and

a portable client device for ~~adapted to~~ wirelessly communicating ~~communicate~~ data with a reader device when the client device is located in communication proximity of the reader device, the client device adapted to store a bit field according to which a time slot is determined, the time slot being set according to a class associated with the portable client device,

wherein the client device is arranged to receive data from the network device during the time slot based on the synchronization information.

21. (Original) The system of claim 20, wherein the client device is further arranged to transmit data to the network device during the time slot.

22. (Original) The system of claim 20, wherein the time slot is determined based on a mask applied to a bit field stored in the client device, and wherein the mask is wirelessly communicated to the client device as part of the synchronization information wirelessly broadcasted by the network device.

23. (Original) The system of claim 20, wherein the synchronization information is dependent on at least one of a user associated with the client device, a class of a user associated with the client device, a class of the client device, and a network traffic load in the system.

24. (Currently Amended) A system, comprising:

a network device configured to wirelessly broadcast synchronization information; and

a portable client device configured to wirelessly receive the synchronization information, the received synchronization information comprising information assigning a time slot during which the client device can receive data from the network device, the time slot being determined according to a class associated with the portable client device.

25. (Original) The system of claim 24, further comprising:

a reader device configured to proximity sense the client device, and further configured to communicate data with the client device in accordance with the synchronization information.

26. (Currently Amended) A method of facilitating data exchange, comprising:

wirelessly broadcasting synchronization information to a portable client device, the synchronization information comprising information assigning a time slot during which the client device can receive data, the time slot being determined according to a class associated with the portable client device; and

wirelessly broadcasting data for reception by the client device during the time slot.

REMARKS

Claims 1-11 and 20-26 were presented for examination. Claims 1-11 and 20-26 stand rejected in the Office Action dated September 29, 2010 (herein, "OA"). Claims 1, 8, 20 and 24 are amended herein.

Claim Objections

Claims 8 and 20 are objected to because of informalities. Specifically, the OA alleges that use of the phrase "adapted to" is claim language that suggests or makes optional but does not require steps to be performed or that does not limit a claim to a particular structure (See MPEP 2111.04 [R-3]; MPEP 2106 [R-5]). This objection is overcome in view of the amended claims.

Claims 8 and 20 are amended herein to now recite a "client device for wirelessly communicating." Therefore, the claim language objected to in the OA is removed, and reconsideration and withdrawal of the objection is respectfully requested.

Response to Rejections Under 35 U.S.C. § 112

Claims 1, 8, 20, 24, and 26 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. This rejection is overcome in view of the amended claims.

Amended claim 1 now recites "the first specific time slot set according to a first class," "the second specific time slot set according to a second class" and "priority level data associated with the first class and with the second class." Similarly, amended claim 8 recites "the physical, portable key device is arranged to communicate with the fixed

reader device during a time slot identified by a bit field stored in the key device, the time slot set according to a class associated with the physical, portable key device." Also, claim 20, as amended, recites "client device adapted to store a bit field according to which a time slot is determined, the time slot being set according to a class associated with the portable client device." As amended, claim 24 also recites "the time slot being determined according to a class associated with the portable client device." Similarly, amended claim 26 recites "the time slot being determined according to a class associated with the portable client device."

Support for these claim amendments is found throughout the specification, for example at paragraphs [00124] and [00125]. Paragraph [00124] discloses:

> Thus, in other words, by reserving time slots for both client device transmission and reception (based on masks established by the network), client transmission and reception time slots may be efficiently coordinated to reduce collision likelihood and allow for tiered client access, assignment of specific classes, and/or targeting an individual user for preferential, non-contended system access. Further, in one or more embodiments, bit masks may be changed to include or exclude specific users (or classes of users). Still further, in one or more embodiments, bit masks may be changed to dynamically alter access to the network by users or classes of users as traffic load on the network changes.

Additionally, paragraph [00125] further discloses:

> In an effort to reduce collision and coordinate the time slots that each client device "talks" with the reader device, a mask may be communicated to each client device to set the times at which the client device is to communicate with the reader device. Further, certain ones of the client devices may be afforded some level of priority, in which case the masks would be set accordingly. For example, masks may be set according to a class of a user of a PDK or to a class of the PDK itself. To facilitate such differentiation, priority level or tier level data may be present in an RDC or CRDC

> to be used when setting a mask for a particular client device or group thereof. Thus, in such a manner, there is provided a technique for dynamic real-time tiered client access.

Accordingly, various portions of the specification, such as the portions reproduced above, describe allocating time slots for client device reception and/or transmission while allowing for assignment of specific classes. Therefore, the specification contains a written description of the invention "in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which is it most nearly connected, to make and use the same," so reconsideration and withdrawal of the rejections of claims 1, 8, 20, 24 and 26 is respectfully requested.

Response to Rejections Under 35 U.S.C. § 102

Claims 24 and 26 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2006/0205408 to Nakagawa et al. ("Nakagawa"). This rejection is overcome in view of the amended claims.

As amended, independent claim 24 recites, in part:

> a portable client device configured to wirelessly receive the synchronization information, the received synchronization information comprising information assigning a time slot during which the client device can receive data from the network device, the time slot being determined according to a class associated with the portable client device. (emphasis added)

The claimed invention beneficially assigns a time slot to a portable client device using synchronization data wirelessly received by the portable client device. The time slot identified by the synchronization information is determined according to a class associated with the portable client device. During the time slot, the portable client device

receives data from a network device. Determining the time slot according to a class associated with the portable client device beneficially reduces the likelihood of collisions during communication between portable client devices and a network device and reduces the latency of communications from client devices to the network device. Additionally, including the time slot in synchronization data received from the network device beneficially allows dynamic real-time tiered access to the network device by portable client devices. Support for the amendments to claim 24 is found throughout the specification, for example at paragraphs [00124] and [00125].

Nakagawa fails to disclose at least the claim element "the time slot being determined according to a class associated with the portable client device." Rather, Nakagawa discloses a radio communication system configured to use network resources of both a mobile communications network and an ad-hoc network. The system disclosed by Nakagawa includes an apparatus that uses TDD-CDMA to construct an ad-hoc network with other radio communication apparatuses proximate to the apparatus and to also communicate with a base station of a mobile communications network. Nakagawa, ¶ [0010], [0011]. At most, Nakagawa discloses a method where a first radio communication device sets timing for communication with a second radio communication device in an ad-hoc network so that the timing corresponds to the communication timing of a mobile communications network described by synchronization information retrieved from a base station. Nakagawa, ¶ [0074].

Thus, Nakagawa does not determine a time slot during which a portable client device can receive data from a network device "according to a class associated with the portable client device," as claimed, but rather establishes communications between two

radio communication devices based on communication timing of a mobile communications network communicating with one of the radio communication devices. Nakagawa does not associate a class with a portable client device, much less use a class to specify a time slot for communication between the portable client device and a network device. Rather, Nakagawa determines communication between radio communication devices based on timing used by a mobile communications system communicating with one of the radio communication devices.

The OA alleges that the disclosure of paragraph [0074] is particularly relevant to the claim element "the time slot being determined according to a class associated with the portable client device." However, paragraph [0074] provides:

> [0074] When receiving the set-up information necessary for communications with the node Y, the node X stores the set-up information in the storage section **15**, and then performs transmitting and receiving of data signals directly with the node Y in accordance with the set-up information. In this case, the node X performs power control in order not to interfere neighboring radio communications apparatuses which do not join the ad-hoc network. That is, it measures the interference level of all time slots based on received signals inputted into the receiver **12** and performs transmit power control so that the maximum value (the tolerance value) of transmit power, which is the sum of the measured values and an offset value set in advance, is not exceeded. The node X also performs processing for receiving a signal from the base station **30**, obtaining information for synchronization included in a predetermined time slot of the received signal, and setting timing for communications with the node Y so that it corresponds to the communication timing in the mobile communications network, based on the synchronization information, and processing for determining estimated channel values of a desired signal transmitted from the node Y and other interference signals based on midambles included in the receive signals, removing the interference signals by joint detection with the use of the estimated channel values and the spreading code assigned to each signal, and the like.

As disclosed by paragrpah [0074], a first radio communicaiton device (node X) communicates with a second radio communication device (node Y) using set-up information received form the seocnd communication device and sets timing for communication with the second communication device so that the timing corresponds to the communicaiton timing of a mobile communicaitons network communicating with the first radio communication device. Nakagawa does not use class assocaited with a portable client device to determine a time slot during which the portable client device can receive data from a network device. As Nakagawa, makes no disclosure of a class associated with a client device. The remaining portions of Nakagawa cited by the OA, paragraphs [0067]-[0073] disclose selection of a communication channel for exchanging data between radio communicaiton deivices in an ad hoc network. Thus, neither the cited portion of Nakagawa, nor the remaining disclosure of Nakagawa, discloses "the time slot being determined according to a class associated with the portable client device," as claimed.

Because Nakagawa does not disclose each and every element of claim 24, claim 24 is patentably distinct from Nakagawa. Hence, reconsideration and withdrawal of its rejection is respectfully requested.

Amended claim 26 recites similar elements to claim 24. Specifically, amended claim 26 recites, in part, "the time slot being determined according to a class associated with the portable client device." Thus, all arguments advanced above with respect to claim 24 are also applicable to claim 26. Accordingly, claim 26 is also patentably distinct from Nakagawa, so reconsideration and withdrawal of its rejection is respectfully requested.

Response to Rejections Under 35 U.S.C. § 103

Claims 1, 3, 4, 8, 10, and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,307,349 to Shloss et al. ("Shloss") in view of Nakagawa. This rejection is overcome in view of the amended claims.

As amended, independent claim 1 now recites:

> assigning a first specific time slot for a first client device to wirelessly communicate with a fixed proximity-based reader device, the first specific time slot set according to a first class; and
> assigning a second specific time slot for a second client device to wirelessly communicate with the fixed proximity-based reader device, the second specific time slot set according to a second class,
> wherein the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class. (emphasis added)

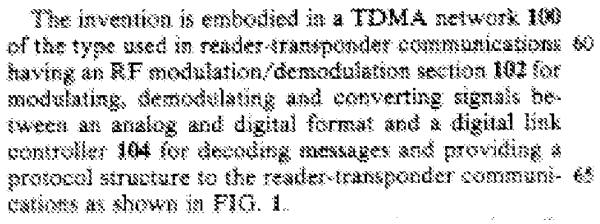
The claimed invention beneficially sets a first specific time slot according to a first class, where the first client device wirelessly communicates with a fixed proximity based reader device during the first specific time slot. Similarly, a second time slot is set according to a second class, so the second client device wirelessly communicates with the fixed proximity device during the second specific time slot. Synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class are used to determine the first and second specific time slots. Determining the first and second specific times slot according to priority level data associated with the first class and with the second class beneficially reduces the likelihood of collisions during communication between the first client device

and the second client device communicating with the fixed proximity-based reader device.

Use of a first class and a second class also beneficially reduces the latency of communications from client devices to the network device for the first client device and for the second client device. Additionally, determining the first specific time slot and the second specific time slot from synchronization information received by the first client device and by the second client device beneficially allows dynamic real-time tiered access to the network device for portable client devices. Support for the amendments to claim 1 is found throughout the specification, for example at paragraphs [00124] and [00125].

The cited references fail to disclose at least the claim elements of "the first specific time slot set according to a first class," the second specific time slot set according to a second class" and "the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class."

Shloss merely discloses a TDMA network for communication between a reader and transponders. Shloss, Abstract. Shloss discloses assigning each transponder a time slot for communicating with the reader. Shloss, 7:23-28. There is no disclosure, or suggestion, in Shloss of setting a first time slot according to a first class or setting a second time slot according to a second class. The OA cites column 3, lines 59-66 of Shloss as allegedly disclosing setting a first time slot according to the first class. However, column 3, lines 59-66 of Shloss disclose:



The invention is embodied in a TDMA network **100** of the type used in reader-transponder communications having an RF modulation/demodulation section **102** for modulating, demodulating and converting signals between an analog and digital format and a digital link controller **104** for decoding messages and providing a protocol structure to the reader-transponder communications as shown in FIG. **1**.

The cited portion of Shloss merely discloses a TDMA where a device includes an RF modulation/demodulation section that converts signals between an analog format and a digital format. Conversion of a signal between an analog and a digital format does not set a first specific time slot according to a first class, but merely modifies a signal format to facilitate wireless transmission of the signal by a device.

The remaining disclosure of Shloss makes no disclosure of a first class or a second class, so Shloss fails to disclose "the first specific time slot set according to a first class" and "the second specific time slot set according to a second class," as claimed.

Nakagawa fails to remedy the deficient disclosure of Shloss. Rather, Nakagawa discloses a radio communication system using network resources of both a mobile communications network and an ad-hoc network. Nakagawa discloses a radio communication apparatus constructing an ad-hoc network with other proximate radio communication apparatuses using a TDD-CDMA system, where the radio communication apparatus also communicates with a base station of a mobile communications network using the TDD-CDMA system. Nakagawa, ¶ [0010], [0011]. At most, Nakagawa discloses an ad-hoc network where a first radio communication device sets timing for communication with a second radio communication device in the ad-hoc network so that the timing corresponds to communication timing in a mobile communications network identified by synchronization information retrieved from a base station. Nakagawa, ¶ [0074].

However, Nakagawa does not disclose "a first class" or "a second class," much less "the first specific time slot set according to a first class" and "the second specific time slot set according to a second class," as claimed. At most, Nakagawa discloses allocating time slots for communication within an ad-hoc network based on a signal interference value or based on time slots used by a mobile communications network. Nakagawa, ¶ [0048], [0049]. Hence, time slots in Nakagawa are not set by a first class or by a second class, but are allocated based on network characteristics. Therefore, like Shloss, Nakagawa fails to disclose "the first specific time slot set according to a first class" and "the second specific time slot set according to a second class," as claimed.

Additionally, the OA admits that Shloss does not specifically teach "wherein the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices," as claimed. *See* OA, page 5. Thus, Shloss fails to disclose "the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class," as recited by amended claim 1.

Nakagawa fails to remedy the deficient disclosure of Shloss. Rather, Nakagawa discloses configuring a radio communication system to use network resources of both a mobile communications network and an ad-hoc network. The system disclosed by Nakagawa includes an apparatus that constructs an ad-hoc network with other radio communication apparatuses proximate to the apparatus using a TDD-CDMA system and that also communicates with a base station of a mobile communications network using the TDD-CDMA system. Nakagawa, ¶ [0010], [0011]. At most, Nakagawa discloses

connecting to an ad-hoc network where a first radio communication device communicates with a second radio communication device in the ad-hoc network so that the timing according to mobile communications network timing identified by synchronization information retrieved from a base station. Nakagawa, ¶ [0074].

Thus, Nakagawa does not disclose "the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class," as claimed, but rather determines time slots based on characteristics of a mobile communications network. Neither a first class nor a second class is used by Nakagawa when determining time slots for communication between a first client device, a second client device and a fixed proximity-based reader device. With no disclosure or suggestion of a first class or a second class, there is no disclosure or suggestion of "priority level data associated with the first class and with the second class," as claimed.

The OA alleges that paragraph [0074] of Nakagawa is particularly relevant to the claim element "the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class." However, paragraph [0074] provides:

[0074] When receiving the set-up information necessary for communications with the node Y, the node X stores the set-up information in the storage section **15**, and then performs transmitting and receiving of data signals directly with the node Y in accordance with the set-up information. In this case, the node X performs power control in order not to interfere neighboring radio communications apparatuses which do not join the ad-hoc network. That is, it measures the interference level of all time slots based on received signals inputted into the receiver **12** and performs transmit power control so that the maximum value (the tolerance value) of transmit power, which is the sum of the measured values and an offset value set in advance, is not exceeded. The node X also performs processing for receiving a signal from the base station **30**, obtaining information for synchronization included in a predetermined time slot of the received signal, and setting timing for communications with the node Y so that it corresponds to the communication timing in the mobile communications network, based on the synchronization information, and processing for determining estimated channel values of a desired signal transmitted from the node Y and other interference signals based on midambles included in the receive signals, removing the interference signals by joint detection with the use of the estimated channel values and the spreading code assigned to each signal, and the like.

Paragraph [0074] discloses a first radio communicaiton device (node X) communicating with a seocnd radio communicaotn device (node Y) using set-up information received from the seocnd communication device and sets timing for communication with the second communication device so that the timing corresponds to the communicaiton timing of a mobile communicaitons network that communicates with the first radio communication device (node X). Priority level data assocaited with a first class and with a second class is not used by Nakagawa to determine a first specific time slot and a second specific time slot. Rather than use synchronization data and priority level data associated with a first class and with a second class, Nakagawa uses data from a mobile communications network to determine time slots for communication between radio communication devices.

The remaining portions of Nakagawa cited by the OA, paragraphs [0067]-[0073], disclose selection of a communicaiton channel for exchanging data between radio communicaiton devices in an ad-hoc network and do not disclose priority level data associated with a first class and with a second class. Thus, neither the cited portion of Nakagawa, nor the remaining disclosure of Nakagawa, discloses "the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class," as claimed.

Therefore, the cited references, both alone and in combination, fail to disclose "the first specific time slot set according to a first class," the second specific time slot set according to a second class" and "the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class," as claimed. Accordingly, claim 1 is patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claims 3 and 4 depend from claim 1, so all arguments advanced above with respect to claim 1 are also applicable to claims 3 and 4. Therefore, dependent claims 3 and 4 are also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of their rejection is respectfully requested.

Independent claim 8, as amended, recites in part:

> wherein the physical, portable key device is arranged to communicate with the fixed reader device during a

time slot identified by a bit field stored in the key device, the time slot set according to a class associated with the physical, portable key device,

wherein the bit field is determined based on synchronization information wirelessly received by the key device and priority level data associated with the class…(emphasis added)

Therefore, claim 8 recites similar elements as amended claim 1, so all arguments advanced above with respect to claim 1 are also applicable to claim 8, as amended. Accordingly, claim 8 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claims 10 and 11 depend from claim 8, so all arguments advanced above with respect to claim 1 are also applicable to claims 10 and 11. Therefore, dependent claims 10 and 11 are also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of their rejection is respectfully requested.

Claims 2 and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shloss in view of Nakagawa and further in view of U.S. Patent No. 5,517,502 to Bestler et al. ("Bestler"). This rejection is overcome in view of the amended claims.

Claim 2 depends from claim 1, so all arguments advanced above with respect to claim 1 are hereby incorporated so as to apply to claim 2. Claim 9 depends form claim 8, so all arguments advanced above with respect to claim 1 are hereby incorporated so as to apply to claim 9.

Bestler fails to remedy the deficient disclosure of Shloss and Nakagawa. Rather, Bestler discloses techniques for downstream acknowledgement of upstream messages in

a two-way communication network. Bestler, 1:7-12. Like Shloss and Nakagawa, Bestler fails to disclose "the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class" or "the time slot set according to a class associated with the physical, portable key device," as claimed. At most, Bestler discloses generating message transmission time slots that are uniquely assigned to subscriber terminals. In Bestler, the time slots associated with each subscriber terminal are controlled from a headend to dynamically change time slot allocation based on changes to the cable television system including the subscriber terminals. Bestler, 4:42-58. Bestler fails to disclose determining time slots based on "priority level data associated with the first class and with the second class" or setting a time slot "according to a class associated with the physical, portable key device," as claimed.

Hence, claim 2 is patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claims 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shloss in view of Nakagawa and further in view of U.S. Patent No. 7,068,623 to Barany et al. (Barany). This rejection is overcome in view of the amended claims.

Claims 5 and 6 depend from claim 1, so all arguments advanced above with respect to claim 1 are hereby incorporated so as to apply to claims 5 and 6.

Barany fails to remedy the deficient disclosure of Shloss and Nakagawa. Rather, Barany discloses a mobile communications system that detects when a first mobile station stops transmitting traffic including real-time, interactive data on a channel portion

and multiplexes traffic from a second mobile station onto the channel portion. Barany, 2:30-37. Barany increases the bandwidth for communication with various mobile stations in a communications system by multiplexing traffic from multiple mobile stations during a time slot when a mobile station is not transmitting traffic. Barany, 5:1-13. While Barany generally references different traffic classes that may be transmitted by a GPRS network, Barany makes no disclosure of priority level data associated with the classes or of setting a first time slot and a second time slot using priority level data. Barany, 5:61-66. Like Shloss and Nakagawa, Barany fails to disclose "the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class," as claimed, but rather discloses modifying time slot allocation based on requests for re-allocation. Barany, 5:29-49.

Therefore, claims 5 and 6 are also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of their rejection is respectfully requested.

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Shloss in view of Nakagawa and further in view of U.S. Patent No. 6,138,010 to Rabe et al. ("Rabe"). This rejection is overcome in view of the amended claims.

As claim 7 depends from claim 1, all arguments advanced above with respect to claim 1 are hereby incorporated so as to apply to claim 7.

Rabe fails to remedy the deficient disclosure of Shloss and Nakagawa. Rather, Rabe discloses a multimode communication device where a resource manager selectively assigns shared resources responsive to operation of the communication device according

to a first mode and a second mode. Rabe, 4:57 to 5:4. Rather than determine the first and second specific time slots based on received synchronization information and priority level data associated with the first class and with the second class, Rabe discloses modifying operation of a communication device from a preferred system to a non-preferred system responsive to receiving interrupts. Like Shloss and Nakagawa, Rabe fails to disclose "the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class," as claimed.

Therefore, claim 7 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claims 20, 22, and 25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa in view of Shloss. This rejection is overcome in view of the amended claims.

As amended, independent claim 20 recites:

> a network device arranged to wirelessly broadcast synchronization information in a first wireless coverage range; and
> a portable client device adapted to wirelessly communicate data with a reader device when the client device is located in communication proximity of the reader device, the client device adapted to store a bit field according to which a time slot is determined, the time slot being set according to a class associated with the portable client device,
> wherein the client device is arranged to receive data from the network device during the time slot based on the synchronization information.

The claimed invention beneficially assigns a time slot to a portable client device during which the portable client device receives data from a network device using synchronization data wirelessly received by the portable client device. The time slot identified by the synchronization information is determined according to a class associated with the portable client device. Determining the time slot according to a class associated with the portable client device beneficially reduces the likelihood of collisions during communication between portable client devices and a network device and reduces latency of communications from client devices to the network device. Additionally, including the time slot in synchronization data received from the network device beneficially allows dynamic real-time tiered access to the network device by portable client devices. Support for the amendments to claim 20 is found throughout the specification, for example at paragraphs [00124] and [00125].

Nakagawa fails to disclose at least the claim element "the time slot being set according to a class associated with the portable client device." Rather, Nakagawa discloses a radio communication system establishing an ad-hoc network including a device that also communicates with a mobile communications network. The system disclosed by Nakagawa includes an apparatus establishing an ad-hoc network with other radio communication apparatuses proximate to the apparatus and also communicating with a base station of a mobile communications network using a TDD-CDMA system. Nakagawa, ¶ [0010], [0011]. At most, Nakagawa discloses an ad-hoc network where a first radio communication device sets timing for communication with a second radio communication device in the ad-hoc network so that the timing corresponds to a timing

schedule used by a mobile communications network communicating with the first radio communication device. Nakagawa, ¶ [0074].

Thus, Nakagawa does not determine a time slot during which a portable client device can receive data from a network device "according to a class associated with the portable client device," as claimed, but rather establishes communications between two radio communication devices using the timing of a mobile communications system communicating with one of the radio communication devices. A class associated with the portable client device is not used by Nakagawa to determine a time slot for communication between the portable client device and a network device. Rather, Nakagawa specifies communication times between radio communication devices using the timing schedule of a mobile communications network that communicates with one of the radio communication devices.

The OA alleges that the disclosure of paragraph [0074] is particularly relevant to the claim element "the time slot being determined according to a class associated with the portable client device." Paragraph [0074] provides:

[0074] When receiving the set-up information necessary for communications with the node Y, the node X stores the set-up information in the storage section **15**, and then performs transmitting and receiving of data signals directly with the node Y in accordance with the set-up information. In this case, the node X performs power control in order not to interfere neighboring radio communications apparatuses which do not join the ad-hoc network. That is, it measures the interference level of all time slots based on received signals inputted into the receiver **12** and performs transmit power control so that the maximum value (the tolerance value) of transmit power, which is the sum of the measured values and an offset value set in advance, is not exceeded. The node X also performs processing for receiving a signal from the base station **30**, obtaining information for synchronization included in a predetermined time slot of the received signal, and setting timing for communications with the node Y so that it corresponds to the communication timing in the mobile communications network, based on the synchronization information, and processing for determining estimated channel values of a desired signal transmitted from the node Y and other interference signals based on midambles included in the receive signals, removing the interference signals by joint detection with the use of the estimated channel values and the spreading code assigned to each signal, and the like.

As disclosed by paragraph [0074], a first radio communicaiton device (node X) communicating with a seocnd radio communicaotn device (node Y) using set-up information received from the seocnd communication device and sets timing for communication with the second communication device so that the timing corresponds to the communicaiton timing of a mobile communicaitons network that communicates with the first radio communication device (node X). In Nakagawa, a class associated with a portable client device is not used to determine a time slot during which the portable client device can receive data from a network device. Further, Nakagawa does not disclose a class associated with a client device, much less disclose using the class to determine the time slot for communication with a network device. The remaining portions of Nakagawa cited by the OA, paragraphs [0067]-[0073], disclose selection of a

communication channel for exchanging data between radio communicaiton deivices in an ad-hoc network. Thus, neither the cited portion of Nakagawa, nor the remaining disclosure of Nakagawa, discloses "the time slot being set according to a class associated with the portable client device," as claimed.

Shloss does not remedy the deficient disclosure of Nakagawa. Rather, Shloss merely discloses a TDMA network for communication between readers and a transponder. Shloss, Abstract. According to Shloss, each transponder is assigned a time slot for communicating with the reader. Shloss, 7:23-28. There is no disclosure, or suggestion, in Shloss of setting time slot according to a class associated with the portable client device. The OA cites column 7, lines 23-34 of Shloss as allegedly disclosing setting a first time slot according to the first class; however, the cited portion of Shloss merely discloses:

> Once an identification message from the vehicle transponder **114** is received and identified, the transponder **114** is assigned specific and unique time slots. Thereafter, data communication occurs between the reader **112** and the vehicle transponder **114** in the assigned time slots. Entry of a vehicle transponder **114** to the TDMA network **100** is not permitted during the assigned time slots. This protocol rule eliminates interference between response signals of different vehicle transponders **114** and ensures a very high data communication success rate between the reader **112** and the transponders **114**.

At most, the cited portion of Shloss makes a generalized disclosure of assigning specific and unique time slots and describes the benefits of assigning specific and unique time slots to different devices. Neither the cited portion of Shloss nor the remaining disclosure of Shloss describes using a class associated with a portable client device to set the time slot during which the portable client device communicates. While the claimed invention recites "the time slot being set according to a class associated with the portable

client device," the cited portion of Shloss, as well as the remaining disclosure of Shloss, makes no disclosure or suggestion of associating a class with a device or of using the associated class to set the time slot used by the portable client device.

Thus, claim 20 is patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

As claim 22 depends from claim 20, all arguments advanced above with respect to claim 20 are also applicable to claim 22. Thus, reconsideration and withdrawal of the rejection of claim 22 is also respectfully requested.

Claim 25 depends from claim 24; thus, all arguments advanced above with respect to claim 24 are hereby incorporated so as to apply to claim 25. As claim 24 recites similar elements as claim 20, all arguments advanced above with respect to claim 20 are also hereby incorporated so as to apply to claim 25. Therefore, claim 25 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claim 21 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa in view of Shloss and further in view of Bestler. This rejection is overcome in view of the amended claims.

Claim 21 depends from claim 20, so all arguments advanced above with respect to claim 20 are hereby incorporated so as to apply to claim 20.

Bestler fails to remedy the deficient disclosure of Shloss and Nakagawa. Rather, Bestler discloses techniques for downstream acknowledgement of upstream messages in a two-way communication network. Bestler, 1:7-12. Like Shloss and Nakagawa, Bestler fails to disclose "the time slot being set according to a class associated with the portable

client device," as claimed. At most, Bestler discloses generating message transmission time slots that are uniquely assigned to subscriber terminals. In Bestler, the time slots associated with each subscriber terminal are controlled form a headend to allow dynamic modification of the time slots responsive to changes in the cable television system including the subscriber terminals. Bestler, 4:42-58. Bestler makes no disclosure of associating a class with the portable client device, but merely discloses altering time slots in response to characteristics of a cable television system. Bestler fails to disclose "the time slot being set according to a class associated with the portable client device," as claimed.

Hence, claim 20 is patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claim 23 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakagawa in view of Shloss further in view of Barany. This rejection is overcome in view of the amended claims.

Claim 23 depends from claim 20, so all arguments advanced above with respect to claim 20 are hereby incorporated so as to apply to claim 23.

Barany fails to remedy the deficient disclosure of Shloss and Nakagawa. Rather, Barany discloses a mobile communications system that detects when a first mobile station stops transmitting traffic including real-time, interactive data on a channel portion and multiplexes traffic from a second mobile station onto the channel portion. Barany, 2:30-37. Barany increases the bandwidth for communication with various mobile stations in a communications system by multiplexing traffic from different mobile stations during a time slot when a mobile station is not transmitting traffic. Barany, 5:1-

13. While Barany generally references different traffic classes included in a GPRS network, Barany makes no disclosure of priority level data associated with the classes or of setting a first time slot and a second time slot using priority level data. Barany, 5:61-66. Like Shloss and Nakagawa, Barany fails to disclose "the time slot being set according to a class associated with the portable client device," as claimed, but rather discloses modifying time slot allocation based on requests for re-allocation. Barany, 5:29-49.

Accordingly, claim 23 is patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

CONCLUSION

Allowance of all claims is requested. If the Examiner believes that direct contact with the Applicants' attorney will advance the prosecution of this case, the Examiner is encouraged to contact the undersigned as indicated below.

Respectfully submitted,
DAVID L. BROWN ET AL.

Dated: November 29, 2010 By: /Brian G. Brannon/

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Electronic Acknowledgement Receipt

EFS ID:	8921677
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	89194
Filer:	Brian Gregory Brannon
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Filing Date:	05-JAN-2007
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		02095_Amendment_B.pdf	194630 262f4fccb3ccd6dc40312d0a27fd2121a01b6abd	yes	31

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment After Final	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	31
Warnings:			
Information:			
	Total Files Size (in bytes):	194630	

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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.

INTEL-1008
U.S. Patent 8,457,672

PTO/SB/06 (07-06)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 11/620,577	Filing Date 01/05/2007	☐ To be Mailed

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☒		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 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).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

		(Column 1)		(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
	11/29/2010	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	Total (37 CFR 1.16(i))	* 18	Minus	** 26	= 0	X $26 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 5	Minus	***6	= 0	X $110 =	0	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	0	OR	TOTAL ADD'L FEE	

		(Column 1)		(Column 2)	(Column 3)					
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	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 number found in the appropriate box in column 1.

Legal Instrument Examiner:
/KAREN VESTAL/

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11/620,577	01/05/2007	David L. Brown	10001-02095	9508

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EXAMINER	
REGO, DOMINIC E	
ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
12/06/2010	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.

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docketing@patentlawworks.net
gsueoka@patentlawworks.net
bbrannon@patentlawworks.net

PTOL-90A (Rev. 04/07)

Advisory Action Before the Filing of an Appeal Brief	Application No. 11/620,577	Applicant(s) BROWN ET AL.	
	Examiner DOMINIC E. REGO	Art Unit 2618	

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

THE REPLY FILED 29 November 2010 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires _____months from the mailing date of the final rejection.
   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.
   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *1-11 and 20-26*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

/Dominic E Rego/
Examiner, Art Unit 2618

Please, do not enter

DR

IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

APPLICANTS:	David L. Brown et al.
APPLICATION NO.:	11/620,577
FILING DATE:	January 5, 2007
TITLE:	Dynamic Real-Time Tiered Client Access
EXAMINER:	Dominic E. Rego
GROUP ART UNIT:	2618
ATTY. DKT. NO.:	10001-02095

CERTIFICATE OF EFS-WEB TRANSMISSION

Pursuant to 240 OG 45 and the Legal Framework For EFS-Web, I hereby certify that this follow-on correspondence is being officially submitted through the USPTO EFS-Web system from the Pacific Time Zone of the United States on the local date shown below:

Dated: November 29, 2010 By: /Brian G. Brannon/

Brian G. Brannon, Reg. No. 57,219

COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

AMENDMENT B

Sir/Madam:

Responsive to the Office Action mailed on September 29, 2010, which sets a shortened statutory period for response that expires on December 29, 2010, please enter the following amendment and consider the following remarks.

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	11/620,577	Filing Date	2007-01-05	Docket Number (if applicable)	10001-02095	Art Unit	2618
First Named Inventor	David L. Brown			Examiner Name	Dominic E. Rego		

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 Amendment B filed on 11-29-2010

☐ Enclosed

☐ Amendment/Reply

☐ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☐ Other _____

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 _____

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

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	/Brian G. Brannon/	Date (YYYY-MM-DD)	2010-12-14
Name	Brian G. Brannon	Registration Number	57219

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.

Electronic Patent Application Fee Transmittal

Application Number:	11620577
Filing Date:	05-Jan-2007
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Filer:	Brian Gregory Brannon/Esther Kim
Attorney Docket Number:	10001-02095

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
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($)
Miscellaneous:				
Request for continued examination	2801	1	405	405
		Total in USD ($)		**405**

Electronic Acknowledgement Receipt	
EFS ID:	9034758
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	89194
Filer:	Brian Gregory Brannon
Filer Authorized By:	
Attorney Docket Number:	10001-02095
Receipt Date:	14-DEC-2010
Filing Date:	05-JAN-2007
Time Stamp:	18:11:49
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$405
RAM confirmation Number	5975
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Request for Continued Examination (RCE)	02095US20101214RCE.pdf	36208 738fd943dd94ac18f579961e0cae06fcc7692a26	no	3
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
2	Fee Worksheet (PTO-875)	fee-info.pdf	30064 adc18361748464d54fb8de4ad2345f8a82b5861f	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	66272		

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.

INTEL-1008
U.S. Patent 8,457,672

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. 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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 11/620,577	Filing Date 01/05/2007	☐ To be Mailed

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☒		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 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).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	12/14/2010	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 18	Minus	** 26	= 0	X $26 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 5	Minus	***6	= 0	X $110 =	0	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	0	OR	TOTAL ADD'L FEE	

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	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 number found in the appropriate box in column 1.

Legal Instrument Examiner:
/MINNIE JACKSON/

This collection of information is required by 37 CFR 1.16. 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, 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.**

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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	11620577
	Filing Date	2007-01-05
	First Named Inventor	David L. Brown
	Art Unit	2618
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	10001-02095

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	7460836		2008-12-02	Smith et al.	
	2	7573841		2009-08-11	Lee et al.	
	3	7583643		2009-09-01	Smith 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					

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

FOREIGN PATENT DOCUMENTS Remove

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							☐

EFS Web 2.1.17

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	11620577
	Filing Date	2007-01-05
	First Named Inventor	David L. Brown
	Art Unit	2618
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	10001-02095

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

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	United States Office Action, US Application No. 11/620,603, January 4, 2011, 13 pages.	☐

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

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	11620577
	Filing Date	2007-01-05
	First Named Inventor	David L. Brown
	Art Unit	2618
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	10001-02095

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	/Brian G. Brannon/	Date (YYYY-MM-DD)	2011-01-20
Name/Print	Brian G. Brannon	Registration Number	57,219

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.**

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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.

Electronic Acknowledgement Receipt

EFS ID:	9274309
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	89194
Filer:	Brian Gregory Brannon
Filer Authorized By:	
Attorney Docket Number:	10001-02095
Receipt Date:	20-JAN-2011
Filing Date:	05-JAN-2007
Time Stamp:	19:03:04
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	Transmittal Letter	02095_SIDS.pdf	75583 bf4ef631632e4330411bea68d5aac9039f4c9436	no	4

Warnings:	
Information:	

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U.S. Patent 8,457,672

2	Information Disclosure Statement (IDS) Filed (SB/08)	02095_SB08a.pdf	612269 3444727f27118737224d30997eed567295124908	no	4
Warnings:					
Information:					
3	NPL Documents	11620603_Non_Final_OA.pdf	454694 2b16bd4e2e3a11fe9f2763015a75929db3a90caa	no	13
Warnings:					
Information:					
			Total Files Size (in bytes):	1142546	

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.

New Applications Under 35 U.S.C. 111
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.

National Stage of an International Application under 35 U.S.C. 371
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.

New International Application Filed with the USPTO as a Receiving Office
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.

IN THE UNITED STATES

PATENT AND TRADEMARK OFFICE

APPLICANTS:	David L. Brown et al.
APPLICATION NO.:	11/620,577
FILING DATE:	January 5, 2007
TITLE:	Dynamic Real-Time Tiered Client Access
EXAMINER:	Dominic E. Rego
GROUP ART UNIT:	2618
ATTY. DKT. NO.:	10001-02095

CERTIFICATE OF EFS-WEB TRANSMISSION

Pursuant to 240 OG 45 and the Legal Framework For EFS-Web, I hereby certify that this follow-on correspondence is being officially submitted through the USPTO EFS-Web system from the Pacific Time Zone of the United States on the local date shown below:

Dated: January 20, 2011 By: /Brian G. Brannon/

Brian G. Brannon, Reg. No. 57,219

COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT
Under 37 CFR §§ 1.56 and 1.97-98

SIR:

Pursuant to the provisions of 37 CFR §§ 1.56 and 1.97-98, enclosed herewith is modified form PTO/SB/08A listing references for consideration by the Examiner.

The filing of this Information Disclosure Statement shall not be construed as a representation regarding the completeness of the list of references, or that inclusion of a reference in this list is an admission that it is prior art or is pertinent to this application, or that a search has been made, or as an admission that the information listed is, or may be considered to be, material to patentability, or that no other material information exists, and shall not be construed as an admission against interest in any manner.

This Information Disclosure Statement is being filed:

- ☐ within three months of the filing date of the application, or date of entry into the national stage of an international application, or before the mailing date of a first office action on the merits, whichever event last occurred;
- ☒ before the mailing of a first official action after the filing of a request for continued examination (RCE) under 37 CFR § 1.114;
- ☐ after three months of the filing date of this national application or the date of entry of the national stage in an international application, or after the mailing date of the first official action on the merits, whichever event last occurred, but before the mailing date of the first to occur of either: (1) a final action under 37 CFR § 1.113; or (2) an action that otherwise closes prosecution in the application, and:
  - ☐ Attached hereto is the fee set forth under 37 CFR § 1.17(p) for submission of this Information Disclosure Statement under 37 CFR § 1.97(c); OR
  - ☐ Applicant certifies pursuant to 37 CFR § 1.97(e) that:
    - ☐ each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement; OR
    - ☐ no item of information contained in this 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 this certification after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement;
- ☐ on or before the payment of the issue fee but after the mailing date of the first to occur of either: (1) a final action under 37 CFR § 1.113; (2) a

notice of allowance under 37 CFR § 1.311; or (3) an action that otherwise closes prosecution in the application, and:

☐ Applicant certifies pursuant to 37 CFR. § 1.97(e) that:

☐ each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement;

☐ no item of information contained in this 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 this certification after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement; AND

☐ Attached hereto is the fee set forth under 37 CFR § 1.17(p) for submission of this Information Disclosure Statement under 37 CFR § 1.97(d); OR

☐ after the payment of the issue fee. Applicant requests that the information contained in this Information Disclosure Statement be placed in the file according to 37 CFR § 1.97(i), although the information may not be considered by the USPTO.

☐ This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior application No. _____, filed on _____ , and the references cited therein are hereby referenced, but are not required to be provided in this application under 37 CFR § 1.98(d).

☐ Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application, and the communication was not received by any individual designated in

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37 CFR § 1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement. 37 CFR § 1.704(d).

Respectfully submitted,
DAVID L. BROWN ET AL.

Dated: January 20, 2011 By: /Brian G. Brannon/

Brian G. Brannon, Reg. No. 57,219
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3	priorit$8 near3 level near5 data near5 associat$3 with first near2 class with second near3 class	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/01 11:09
L2	4	priorit$8 near3 level with data with associat$3 with first near2 class with second near3 class	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/01 11:10
L3	57	priorit$8 near3 level with data with associat$3 with classes	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/01 11:11
L4	57	priorit$8 near3 level with data with associat$3 with classes	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/01 11:11
L5	47	4 and (@ad <= "20060106" @rlad <= "20060106" @pd <= "20060106")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/01 11:24
L6	57	priorit$8 near3 level with data with associat$3 with "classes"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/01 11:25

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L7	21	4 same (cellular cell adj phone mobile portable pda terminal device user adj equipment wireless phone telephone cordless hand$held hand adj held wtru subscriber station $1 (time$slots time adj slots))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/01 11:28
L8	14	7 and (@ad <= "20060106" @rlad <= "20060106" @pd <= "20060106")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/01 11:28
S29	41	(time$slot time adj slot) with determin $3 with class$2 with (cellular cell adj phone mobile portable pda terminal device user adj equipment wireless phone telephone cordless hand$held hand adj held wtru subscriber station $1)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/23 15:48
S30	34	S29 and (@ad <= "20060106" @rlad <= "20060106" @pd <= "20060106")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/23 15:49

S31	28	determin$3 near4 (time$slot time adj slot) with receiv$3 with data with network with (cellular cell adj phone mobile portable pda terminal device user adj equipment wireless phone telephone cordless hand$held hand adj held wtru subscriber station $1)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/23 16:01
S32	17	S31 and (@ad <= "20060106" @rlad <= "20060106" @pd <= "20060106")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/23 16:02
S33	1693	determin$3 near4 (time$slot time adj slot) with (cellular cell adj phone mobile portable pda wireless near2 (terminal device) user adj equipment phone telephone cordless hand$held hand adj held wtru subscriber station $1)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/28 14:12
S34	17	S33 same class$2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/28 14:12
S36	17	S34 and (@ad <= "20060106" @rlad <= "20060106" @pd <= "20060106")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/28 14:13

INTEL-1008
U.S. Patent 8,457,672

S37	12	assign$3 with time $slot$4 with receiv $3 near3 data with during with (cellular cell adj phone mobile portable pda wireless near2 (terminal device) user adj equipment phone telephone cordless hand$held hand adj held wtru subscriber station $1)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/28 14:23
S38	11	S37 and (@ad <= "20060106" @rlad <= "20060106" @pd <= "20060106")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/28 14:23
S39	22	assign$3 with time near2 slots with synchroniz$5 near2 information with (cellular cell adj phone mobile portable pda wireless near2 (terminal device) user adj equipment phone telephone cordless hand$held hand adj held wtru subscriber station $1)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/28 15:02
S40	22	S39 and (@ad <= "20060106" @rlad <= "20060106" @pd <= "20060106")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/28 15:02

INTEL-1008
U.S. Patent 8,457,672

S41	8	time near2 slots with synchroniz$5 near2 information with (cellular cell adj phone mobile portable pda wireless near2 (terminal device) user adj equipment phone telephone cordless hand$held hand adj held wtru subscriber station $1) with receiv$3 near4 data	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/28 15:07
S42	8	S41 and (@ad <= "20060106" @rlad <= "20060106" @pd <= "20060106")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/28 15:07
S47	103	(different various multi$3 many several numerous variety plurality alternat$3) near3 (time$slot$1 time adj slot$1) with determin$3 with synchroniz$5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/30 23:05
S48	44	S47 same (cellular cell adj phone mobile portable pda terminal device user adj equipment wireless phone telephone cordless hand$held hand adj held wtru subscriber station $1)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/30 23:07
S49	39	S48 and (@ad <= "20060106" @rlad <= "20060106" @pd <= "20060106")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/30 23:07

INTEL-1008
U.S. Patent 8,457,672

S50	103	S47 same (cellular cell adj phone mobile portable pda terminal device user adj equipment wireless phone telephone cordless hand$held hand adj held wtru subscriber station $1 (time$slots time adj slots))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/06/30 23:18

7/1/2011 2:35:57 PM
C:\ Documents and Settings\ drego\ My Documents\ EAST\ Workspaces\ 11620577.wsp

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11620577	BROWN ET AL.
	Examiner	**Art Unit**
	LAURI HARRIS	2618

SEARCHED			
Class	**Subclass**	**Date**	**Examiner**
455	41.2	11/17/2009	LH
455	3.02, 13.2,502	9/23/2010	DR
375	145,149,240.28,293,355-257,262,363-365,368,370	9/23/2010	DR
Above	Updated	9/23/2010	DR

SEARCH NOTES		
Search Notes	**Date**	**Examiner**
assignee/inventor	11/17/2009	LH
EAST	11/17/2009	LH
PLUS	11/17/2009	LH
IEEE/Google	11/17/2009	LH
Updated EAST search	9/23/2010	DR
Updated EAST search	6/29/2011	DR

INTERFERENCE SEARCH			
Class	**Subclass**	**Date**	**Examiner**

/LAURI HARRIS/ Examiner.Art Unit 2618	

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11620577	BROWN ET AL.
	Examiner	Art Unit
	DOMINIC E REGO	2618

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

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

CLAIM		DATE								
Final	Original	11/17/2009	06/19/2010	09/23/2010	07/01/2011					
	1	✓	÷	✓	✓					
	2	✓	÷	✓	✓					
	3	✓	÷	✓	✓					
	4	✓	÷	✓	✓					
	5	✓	÷	✓	✓					
	6	✓	÷	✓	✓					
	7	✓	÷	✓	✓					
	8	✓	÷	✓	✓					
	9	✓	÷	✓	✓					
	10	✓	÷	✓	✓					
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	23	✓	÷	✓	✓					
	24	✓	÷	✓	✓					
	25	✓	÷	✓	✓					
	26	✓	÷	✓	✓					

Notice of References Cited	Application/Control No. 11/620,577	Applicant(s)/Patent Under Reexamination BROWN ET AL.	
	Examiner DOMINIC E. REGO	Art Unit 2618	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,209,955	04-2007	Major et al.	709/207
*	B	US-2003/0223394	12-2003	Parantainen et al.	370/336
*	C	US-2007/0008916	01-2007	Haugli et al.	370/320
*	D	US-2006/0274711	12-2006	Nelson et al.	370/342
*	E	US-2002/0086690	07-2002	Takahashi et al.	455/502
*	F	US-2002/0037732	03-2002	Gous et al.	455/502
*	G	US-2002/0128017	09-2002	Virtanen, Kari	455/452
	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	
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	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.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	11620577
	Filing Date	2007-01-05
	First Named Inventor	David L. Brown
	Art Unit	2618
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	10001-02095

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	7460836		2008-12-02	Smith et al.	
	2	7573841		2009-08-11	Lee et al.	
	3	7583643		2009-09-01	Smith et al.	

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	1							☐

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

Receipt date: 01/20/2011	Application Number	11620577	11620577 - GAU: 2618
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2007-01-05	
	First Named Inventor	David L. Brown	
	Art Unit	2618	
	Examiner Name	Dominic E. Rego	
	Attorney Docket Number	10001-02095	

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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	United States Office Action, US Application No. 11/620,603, January 4, 2011, 13 pages.	☐

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EXAMINER SIGNATURE

Examiner Signature	/Dominic Rego/	Date Considered	07/01/2011

*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.

EFS Web 2.1.17 ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.R./

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/620,577	01/05/2007	David L. Brown	10001-02095	9508

89194 7590 07/07/2011

Patent Law Works/Proxense
165 South Main St
Suite 2
Salt Lake City, UT 84111

EXAMINER	
REGO, DOMINIC E	
ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
07/07/2011	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):

docketing@patentlawworks.net
gsueoka@patentlawworks.net
kishihara@patentlawworks.net

PTOL-90A (Rev. 04/07)

Office Action Summary	Application No.	Applicant(s)	
	11/620,577	BROWN ET AL.	
	Examiner	Art Unit	
	DOMINIC E. REGO	2618	

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

Period for Reply

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

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

Status

1)☒ Responsive to communication(s) filed on *14 December 2010*.

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

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

Disposition of Claims

4)☒ Claim(s) *1-11 and 20-26* is/are pending in the application.

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

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 20-26* is/are rejected.

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

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

Application Papers

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

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

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

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

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

Priority under 35 U.S.C. § 119

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

a)☐ All b)☐ Some * c)☐ None of:

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

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

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

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

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/20/2011*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. 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, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/14/2010 has been entered.

2. This communication is responsive to the application filed on November 14, 2010.

Claims 1-11 and 20-26 are pending and presented for prosecution.

Claims 1,8, 20, 24, and 26 have been amended.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1,8,20,24, and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make

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and/or use the invention. According to claim 1, the claimed limitations “the first specific time slot is set according to a first class and the second specific time slot set according to a second class and priority level data associated with the first class and with the second class” are not found in the specification and non-enabling for further prosecution. Same issue applies to claim 8, the limitations "the time slot set according to a class associated with the physical , portable key device", claim 20, the limitations “the time slot being set according to a class associated with the portable client device”, claim 24, “the time slot being determined according to a class associated with the portable client device”, and claim 26, the limitations “the time slot being determined according to a class associated with the portable client device” are not found in the specification. The Examiner is requested to explain/define above limitations very clearly and also requested to show from paragraphs 00124 and 00125 precisely where the above limitations have been found. For example, the phrases “the first specific time slot set according to a first class and the second specific time slot set according to a second class” do not make any sense and is non-enabling because there is no clear explanation in the specification of "set according to first and second class". If Applicant wants to move forward with this case, should explain/define clearly what does it meant by “a first class or a second class or a class" and should put those explanation in the claim language, not only in the Remarks so that anyone in one of ordinary skill can understand clearly.

According to Applicant Remarks, support for the amendments to claims 1, 8, 20, 24, and 26 is found throughout the specification, for example, at paragraphs [0124 and

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0125]. The Examiner copied paragraphs [0124 and 0125] of Applicant's specification, but nowhere have found those limitations. The Examiner is requested for clarification clearly.

[0124] Using, for example, the masking approach described above, individual client devices (e.g., PDKs) within a given cell (e.g., an RDC's wireless coverage area) may be addressed via real-time re-provisioning on command. Thus, in other words, by reserving time slots for both client device transmission and reception (based on masks established by the network), client transmission and reception time slots may be efficiently coordinated to reduce collision likelihood and allow for tiered client access, assignment of specific classes, and/or targeting an individual user for preferential, non-contended system access. Further, in one or more embodiments, bit masks may be changed to include or exclude specific users (or classes of users). Still further, in one or more embodiments, bit masks may be changed to dynamically alter access to the network by users or classes of users as traffic load on the network changes. Moreover, it is noted that once a specific client exits the network, previously reserved time slots of that client may be reassigned to one or more other client devices in the network.

[0125] To provide an example, there may be multiple client devices (e.g., PDKs) in proximity of a particular fixed reader device (e.g., an RDC). Each of these client devices, other than providing a location response, may request some data exchange with the reader device in order carry out a secure transaction. In an effort to reduce collision and coordinate the time slots that each client device "talks" with the reader device, a mask may be communicated to each client device to set the times at which the client device is to communicate with the reader device. Further, certain ones of the client devices may be afforded some level of priority, in which case the masks would be set accordingly. For example, masks may be set according to a class of a user of a PDK or to a class of the PDK itself. To facilitate such differentiation, priority level or tier level data may be present in an RDC or CRDC to be used when setting a mask for a particular client device or group thereof. Thus, in such a manner, there is provided a technique for dynamic real-time tiered client access. Moreover, it is noted that in one or more embodiments, a CSMA-CA mechanism may be implemented as a backup approach to facilitate data exchange.

Claim Objections

Claim 20 is objected to because of the following informalities: Applicant uses the word "adapted to" to the above claims where claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure (See MPEP 2111.04 [R-3]; MPEP 2106 [R-5]). Appropriate correction is required.

Claim Rejections - 35 USC § 103

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

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

6. Claims 1,3,4,8,10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Nakagawa et al. (US Pub. No. 2006/0205408) and further in view of Major et al. (US Patent #7,209,955).

Regarding claim 1, Shloss teaches a method of facilitating data exchange, comprising:

assigning a first specific time slot for a first client device *(assigning a time slot of a transponder) (Figure 2, Item 114; Col 7, lines 23-45)* to wirelessly communicate with a fixed proximity-based reader (reader) device, the first specific time

slot set according to a first class *(Col 3, lines 59-66 and Col 7, lines 23-45, Shloss teaches an increased number of transponders 114 can be accommodated by the TDMA network 100 since message repeat time is minimized. This combination of time slots provides the best results for the following reasons. The random time slot selection is convenient for entry into the TDMA network 100 but is a poor choice for uniquely communicating with a large number of vehicle transponders 114. The assigned time slots (more than one time slot) are efficient for communicating among a known list of vehicle transponders 114 (more than one transponder which can be first and second client device) wherein first specific time slot set according to a first class is obvious)*; and

assigning a second specific time slot for a second client device to wirelessly communicate with the fixed proximity-based reader device, the second specific time slot set according to a second class *(Col 3, lines 59-66 and Col 7, lines 23-45, Shloss teaches an increased number of transponders 114 can be accommodated by the TDMA network 100 since message repeat time is minimized. This combination of time slots provides the best results for the following reasons. The random time slot selection is convenient for entry into the TDMA network 100 but is a poor choice for uniquely communicating with a large number of vehicle transponders 114. The assigned time slots (more than one time slot) are efficient for communicating among a known list of vehicle transponders 114 (more than one transponder which can be first and second client device) wherein second specific time slot set according to a second class is obvious))*, but does not specifically teach wherein the first and second specific time slots

are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class.

However, in related art, Nakagawa teaches wherein the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices *(See Fig. 1, and paragraphs 0067-0074, especially paragraph 0067, Nakagawa teaches the first radio communication apparatus 10 (PDA, PC, or Mobile phone) is a node X. Paragraph 0074 teaches the node X (can be more than on node) also performs processing for receiving a signal from the base station 30, obtaining information for synchronization included in a predetermined time slot (each node X can receive this information) of the received signal, and setting timing for communications with the node Y so that it corresponds to the communication timing in the mobile communications network, based on the synchronization information, so the first and second time slots are determined based on synchronization information wirelessly received by the first and second node X).* Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Nakagawa to Shloss in order to improve communication characteristics and enhance the communication capacity and the throughput of the entire network.

The combination of Shloss and Nakagawa do not specifically teach priority level data associated with the first class and with the second class.

However, in related art, Major teaches priority level data associated with the first class and with the second class (Col 19, line 62-Col 20, line 6). Therefore, it would have

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been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Major to Shloss and Nakagawa in order to maintain the highest possible quality of the data stream.

Regarding claim 3, the combination of Shloss, Nakagawa, and Major teach all the claimed elements in claim 1. In addition, Shloss teaches a method of claim 1, wherein assigning the first specific time slot comprises: masking a bit field of the first client device (Figure 4; column 10, lines 29-53).

Regarding claim 4, the combination of Shloss, Nakagawa, and Major teach all the claimed elements in claim 3. In addition, Shloss teaches method of claim 3, wherein the mask is wirelessly communicated to the first client device (Figure 4; column 10, lines 29-53).

Regarding claim 8, Shloss teaches an apparatus, comprising:

a physical, portable key device (transponder) for wirelessly communicating data with a fixed reader device when located in a wireless coverage area of the fixed reader device (Col 7, lines 23-45 and Col 8, lines 33-52),

wherein the physical, portable key device is arranged to communicate with the fixed reader device during a time slot identified by a bit field stored in the key device, the time slot set according to a class associated with the physical, portable key device *(Col 7, lines 23-45 and Col 8, lines 33-52, especially Col 7, lines 23-45, Shloss teaches the assigned time slots (more than one time slot) are efficient for communicating among a known list of vehicle transponders 114 (more than one transponder which can be first and second client device. Col 3, lines 44-52, Shloss teaches the vehicle transponder*

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114 randomly selects one of the sixteen activation time slots 152 and transmits a short transponder identification message 160 shown in FIG. 4b to the reader 112. The transponder identification message 160 contains a unique identification number used to gain access to the TDMA network 100. The unique transponder identification number is stored in the memory 138 of the vehicle transponder shown in FIG. 2, wherein the time slot set according to a class associated with the physical, portable key device or transponder is obvious), but does not specifically teach wherein the bit field is determined based on synchronization information wirelessly received by the key device and priority level data associated with the class.

However, in related art, Nakagawa teaches wherein the bit field (*included in the time-slot)* is determined based on synchronization information wirelessly received by the key device *(See Fig. 1, and paragraphs 0067-0074, especially paragraph 0067, Nakagawa teaches the first radio communication apparatus 10 (PDA, PC, or Mobile phone) is a node X. Paragraph 0074 teaches the node X) also performs processing for receiving a signal from the base station 30, obtaining information for synchronization included in a predetermined time slot (fit field included in the time slot) of the received signal, and setting timing for communications with the node Y so that it corresponds to the communication timing in the mobile communications network, based on the synchronization information, so the first and second time slots are determined based on synchronization information wirelessly received by the first and second node X).* Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Nakagawa to Shloss in order to improve

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communication characteristics and enhance the communication capacity and the throughput of the entire network.

The combination of Shloss and Nakagawa do not specifically teach priority level data associated with the class.

However, in related art, Major teaches priority level data associated with the class (Col 19, line 62-Col 20, line 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Major to Shloss and Nakagawa in order to maintain the highest possible quality of the data stream.

Regarding claim 10, the combination of Shloss, Nakagawa, and Major teach all the claimed elements in claim 1. In addition, Shloss discloses an apparatus of claim 9, wherein the mask is determined external to the key device *(sixty-four bit seed field is formed by the reader) (column 9, lines 65-68).*

Regarding claim 11, the combination of Shloss, Nakagawa, and Major teach all the claimed elements in claim 1. In addition, Shloss teaches the apparatus of claim 8, wherein the bit field represents an identification of the key device (unique identification number) (column 8, lines 43-52).

7. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Nakagawa et al. (US Pub. No. 2006/0205408) in view of Major et al. (US Patent #7,209,955) and further in view of Bestler US Patent No. 5,517,502.

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Regarding claim 2, the combination of Shloss, Nakagawa, and Major teach all the claimed elements in claim 1. In addition, Shloss discloses setting time slots and changing the time slots based on network traffic (column 8, lines 43-52), but does not specifically disclose the method of claim 1, further comprising: dynamically adjusting at least one of the first specific time slot and the second specific time slot.

However, in related art, Bestler discloses the method of claim 1, further comprising: dynamically adjusting at least one of the first specific time slot and the second specific time slot *(Column 4, lines 48-58 teach the width and timing location of the time slots for a subscriber terminal are programmably controlled from the headend to accommodate dynamic changes within the network and making adjustments to the time slots or controlling the width and number of the time slots)*. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Bestler to Shloss, Nakagawa and Major in order to improve overall throughput.

Regarding claim 9, the combination of Shloss, Nakagawa, and Major teach all the claimed elements in claim 8. In addition, Shloss teaches adjusting the time slot for another time slot based on the mask (slots are identified by letter codes or masks and are adjusted dependent on those masks) (column 10, lines 38-67), but does not teach the apparatus of claim 8, wherein the time slot is adjustable dependent on a mask applied to the bit field.

However, in related art, Bestler teaches the apparatus of claim 8, wherein the time slot is adjustable dependent on a mask applied to the bit field *(Column 4, lines 48-*

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58 teach the width and timing location of the time slots for a subscriber terminal are programmably controlled from the headend to accommodate dynamic changes within the network and making adjustments to the time slots or controlling the width and number of the time slots). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Bestler to Shloss, Nakagawa, and Major in order to improve overall throughput.

8. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Nakagawa et al. (US Pub. No. 2006/0205408) in view of Major et al. (US Patent #7,209,955) and further in view of Barany et al. (US Pub. No. 7,068,623).

Regarding claim 5, the combination of Shloss, Nakagawa, and Major fail to teach the method of claim 1, wherein the first class comprises at least one of a user associated with the first client device and a class of the first client device.

However, in related art, Barany teaches the method of claim 1, wherein the first class comprises at least one of a user associated with the first client device (full-rate voice user) (column 5, lines 27-49) and a class of the first client device (see second obviousness statement below). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Shloss's time slot assignment by Barany's time slot assignment based on class because Barany states that this method of time slot assignment provides for dedicated or limited sharing which as is well known in the art would reduce collisions (column 6, lines 30-37). It would also have been

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obvious to one of ordinary skill in the art at the time of the invention to implement a class associated with devices as well as a class associated with users because just like users all devices do not use the network bandwidth the same a pager providing texting capabilities versus a cell phone providing voice capabilities.

Regarding claim 6, the combination of Shloss, Nakagawa, and Major fail to teach the method of claim 1, wherein assigning the first specific time slot is dependent on a network traffic load.

However, in related art, Barany teaches the method of claim 1, wherein assigning the first specific time slot is dependent on a network traffic load (assigning based on different traffic classes) (column 5, line 51-column 6, line 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Shloss's time slot assignment by Barany's time slot assignment based on traffic because Barany states that a multiplexer may be used in silent periods to combine flow of the network traffic reducing possible traffic collisions (column 6, lines 20-37).

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Nakagawa et al. (US Pub. No. 2006/0205408) in view of Major et al. (US Patent #7,209,955) and further in view of Rabe US Patent No. 6,138,010.

Regarding claim 7, the combination of Shloss, Nakagawa, and Major fail to teach the method of claim 1, further comprising: reassigning the first specific time slot to a third client device in response to a detection that the first client device is unavailable.

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However, in related art, Rabe teaches the method of claim 1, further comprising: reassigning the first specific time slot to a third client device in response to a detection that the first client device is unavailable (inactive idle messages indicates that the communication device will be unavailable during an idle duration and the time slot and frequency may be reassigned during this unavailable period) (column 10, line 52-column 11, line 11). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Shloss and Nakagawa's time slot assignment by Rabe's reassignment or unused time slots because Rabe states this permits use of the time slots when the first client device would not be using the time slots (column 6, lines 55-67).

10. Claims 20, 22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408) in view of Shloss et al. (US Patent #5,307,349).

Regarding claim 20, Nakagawa teaches a system, comprising:

a network device arranged to wirelessly broadcast synchronization information in a first wireless coverage range (Paragraphs 0067 and 0074); and

wherein the client device is arranged to receive data from the network device during the time slot based on the synchronization information (Paragraphs 0067 and 0074), but does not specifically teach a portable client device for wirelessly communicating data with a reader device when the client device is located in communication proximity of the reader device, the client device adapted to store a bit

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field according to which a time slot is determined, the time slot being set according to a class associated with the portable client device.

However, in related art, Shloss teaches a portable client device for wirelessly communicating data with a reader device when the client device is located in communication proximity of the reader device, the client device adapted to store a bit field according to which a time slot is determined, the time slot being set according to a class associated with the portable client device *(Col 7, lines 23-45 and Col 8, lines 33-52, especially Col 7, lines 23-45, Shloss teaches the assigned time slots (more than one time slot) are efficient for communicating among a known list of vehicle transponders 114 (more than one transponder which can be first and second client device. Col 3, lines 44-52, Shloss teaches the vehicle transponder 114 randomly selects one of the sixteen activation time slots 152 and transmits a short transponder identification message 160 shown in FIG. 4b to the reader 112. The transponder identification message 160 contains a unique identification number used to gain access to the TDMA network 100. The unique transponder identification number is stored in the memory 138 of the vehicle transponder shown in FIG. 2, wherein the time slot set according to a class associated with the physical, portable key device or transponder is obvious).* Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Shloss to Nakagawa in order to properly transmit the signal to the target reader.

Regarding claim 22, the combination of Nakagawa and Shloss teach all the claimed elements in claim 20. In addition, Shloss teaches the system of claim 20,

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wherein the time slot is determined based on a mask applied to a bit field stored in the client device, and wherein the mask is wirelessly communicated to the client device as part of the synchronization information wirelessly broadcasted by the network device (column 10, line 54-column 11, line 7).

Regarding claim 25, Nakagawa teaches the system of claim 24, further comprising: communicate data with the client device in accordance with the synchronization information (Paragraph 0074), but does not specifically teach a reader device configured to proximity sense the client device.

However, in related art, Shloss teaches a reader device configured to proximity sense the client device (short range within 100 feet) (column 7, lines 46-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Shloss to Nakagawa in order to properly transmit the signal to the target reader.

11. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408) in view of Shloss et al. (US Patent #5,307,349) and further in view of Bestler et al. (US Patent No. 5,517,502).

Regarding claim 21, the combination of Nakagawa and Shloss teach all the claimed elements in claim 20. In addition, Shloss discloses setting time slots and changing the time slots based on network traffic (column 8, lines 43-52), but does not specifically disclose the system of claim 20, wherein the client device is further arranged to transmit data to the network device during the time slot.

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However, in related art, Bestler discloses the system of claim 20, wherein the client device is further arranged to transmit data to the network device during the time slot *(Column 4, lines 48-58 teach the width and timing location of the time slots for a subscriber terminal are programmably controlled from the headend to accommodate dynamic changes within the network and making adjustments to the time slots or controlling the width and number of the time slots).* Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Bestler to Nakagawa and Shloss in order to improve overall throughput.

12. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408) in view of Shloss et al. (US Patent #5,307,349) and further in view of Barany et al. (US Pub. No. 7,068,623).

Regarding claim 23, the combination of Nakagawa and Shloss fail to teach the system of claim 20, wherein the synchronization information is dependent on at least one of a user associated with the client device, a class of a user associated with the client device, a class of the client device, and a network traffic load in the system.

However, in related art, Barany teaches the system of claim 20, wherein the synchronization information is dependent on at least one of a user associated with the client device, a class of a user associated with the client device, a class of the client device, and a network traffic load in the system (assigning based on different traffic classes) (column 5, line 51-column 6, line 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Nakagawa and Shloss

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time slot assignment by Barany's time slot assignment based on traffic because Barany states that a multiplexer may be used in silent periods to combine flow of the network traffic reducing possible traffic collisions (column 6, lines 20-37).

13. Claims 24 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakagawa et al. (US Pub. No. 2006/0205408) in view of Gous et al. (US 2002/0037732) and further in view of Virtanen (US 2002/0128017).

Regarding claim 24, Nakagawa teaches a system, comprising:

a network device configured to wirelessly broadcast synchronization information; and a portable client device configured to wirelessly receive the synchronization information, the received synchronization information (Paragraph 0074) comprising but does not specifically teach information assigning a time slot during which the client device can receive data from the network device, the time slot being determined according to a class associated with the portable client device.

However, in related art, Gous teaches information assigning a time slot during which the client device can receive data from the network device (See Abstract; claim 1; Paragraphs 0012 and 0013). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Gous to Nakagawa in order to transmit/receive data from the mobile unit/base station to the base station/mobile unit so that data from the mobile unit/base station arrives at the mobile unit/base station during the assigned time slot for that particular mobile unit/base station.

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The combination of Nakagawa and Gous do not specifically teach the time slot being determined according to a class associated with the portable client device.

However, in related art, Virtanen teaches the time slot being determined according to a class associated with the portable client device (Paragraph 0026). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Virtanen to Nakagawa and Gous in order to have desired quality of service to the mobile station.

Regarding claim 26, Nakagawa teaches a method of facilitating data exchange, comprising: wirelessly broadcasting synchronization information to a portable client device (Paragraph 0074), but does not specifically teach the synchronization information comprising information assigning a time slot during which the client device can receive data, the time slot being determined according to a class associated with the portable client device; and wirelessly broadcasting data for reception by the client device during the time slot.

However, in related art, Gous teaches the synchronization information comprising information assigning a time slot during which the client device can receive data; and wirelessly broadcasting data for reception by the client device during the time slot (See Abstract; claim 1; Paragraphs 0012 and 0013). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Gous to Nakagawa in order to transmit/receive data from the mobile unit/base station to the base station/mobile unit so that data from the mobile unit/base

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station arrives at the mobile unit/base station during the assigned time slot for that particular mobile unit/base station.

The combination of Nakagawa and Gous do not specifically teach the time slot being determined according to a class associated with the portable client device.

However, in related art, Virtanen teaches the time slot being determined according to a class associated with the portable client device (Paragraph 0026). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Virtanen to Nakagawa and Gous in order to have desired quality of service to the mobile station.

EXAMINER'S NOTE: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. SEE MPEP 2141.02 [R-5] VI. PRIOR ART MUST BE CONSIDERED IN ITS ENTIRETY, INCLUDING DISCLOSURES THAT TEACH AWAY FROM THE CLAIMS: A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert.

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denied, 469 U.S. 851 (1984) In re Fulton, 391 F.3d 1195, 1qw201,73 USPQ2d 1141, 1146 (Fed. Cir. 2004). >See also MPEP §2123.

Response to Arguments

Applicant's arguments with respect to claims 1-11 and 20-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Parantainen et al. (US 2003/0223394), Haugli et al. (US 2007/0008916), Nelson, JR et al. (US 2006/0274711), Takahashi et al. (US 2002/0086690).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E. REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

INTEL-1008
U.S. Patent 8,457,672

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.

/DOMINIC E REGO/
Primary Examiner, Art Unit 2618
Tel 571-272-8132

INTEL-1008
U.S. Patent 8,457,672

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)

Application Number	11620577
Filing Date	2007-01-05
First Named Inventor	David L. Brown
Art Unit	2618
Examiner Name	Dominice Rego
Attorney Docket Number	10001-02095 US

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	6957086		2005-10-18	Bahl et al.	

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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	20020153996		2002-10-24	Chan et al.	
	2	20030109274		2003-06-12	Budka et al.	
	3	20050040961		2005-02-24	Tuttle	
	4	20060198337		2006-09-07	Hoang et al.	
	5	20060238305		2006-10-26	Loving et al.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	11620577
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	Art Unit	2618
	Examiner Name	Dominice Rego
	Attorney Docket Number	10001-02095 US

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]
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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	11620577
	Filing Date	2007-01-05
	First Named Inventor	David L. Brown
	Art Unit	2618
	Examiner Name	Dominice Rego
	Attorney Docket Number	10001-02095 US

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.

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

☐ A certification statement is not submitted herewith.

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	/Kanda Ishihara/	Date (YYYY-MM-DD)	2011-08-26
Name/Print	Kanda V. Ishihara	Registration Number	56607

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.**

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Electronic Patent Application Fee Transmittal

Application Number:	11620577
Filing Date:	05-Jan-2007
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Filer:	Kanda Ishihara
Attorney Docket Number:	10001-02095

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
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($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
		Total in USD ($)		**180**

INTEL-1008
U.S. Patent 8,457,672

Electronic Acknowledgement Receipt

EFS ID:	10827287
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	89194
Filer:	Kanda Ishihara
Filer Authorized By:	
Attorney Docket Number:	10001-02095
Receipt Date:	26-AUG-2011
Filing Date:	05-JAN-2007
Time Stamp:	19:51:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$180
RAM confirmation Number	5377
Deposit Account	
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Information Disclosure Statement (IDS) Form (SB08)	02095_US_SB08a.pdf	612341 dc7b390a8b3fe69f09e11d1fa42fa728c20c14a7	no	4
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	29750 32a5b1d60ca0b4f3d1617488c7a2f04c411c8433	no	2
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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.

National Stage of an International Application under 35 U.S.C. 371
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.

New International Application Filed with the USPTO as a Receiving Office
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.

IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

APPLICANTS:	David L. Brown et al.
APPLICATION NO.:	11/620,577
FILING DATE:	January 5, 2007
TITLE:	Dynamic Real-Time Tiered Client Access
EXAMINER:	Dominic E. Rego
GROUP ART UNIT:	2618
ATTY. DKT. NO.:	10001-02095 US

CERTIFICATE OF EFS-WEB TRANSMISSION

Pursuant to 240 OG 45 and the Legal Framework For EFS-Web, I hereby certify that this follow-on correspondence is being officially submitted through the USPTO EFS-Web system from the Pacific Time Zone of the United States on the local date shown below:

Dated: October 7, 2011 By: /Kanda Ishihara/

Kanda V. Ishihara, Reg. No. 56,607

COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

AMENDMENT C

Sir:

Responsive to the Office Action mailed on July 7, 2011 which sets a shortened statutory period for response that expires on October 7, 2011, please enter the following amendment and consider the following remarks.

IN THE CLAIMS

All pending claims are reproduced below.

1. (Currently Amended) A method of facilitating data exchange, comprising:

assigning a first specific time slot for a first client device to wirelessly communicate with a fixed proximity-based reader device, the first specific time slot set according to a first class; and

assigning a second specific time slot for a second client device to wirelessly communicate with the fixed proximity-based reader device, the second specific time slot set according to a second class,

wherein the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class, and

wherein the first class is associated with one or more of the first client device and a user of the first client device, and the second class is associated with one or more of the second client device and a user of the second client device.

2. (Original) The method of claim 1, further comprising:

dynamically adjusting at least one of the first specific time slot and the second specific time slot.

3. (Original) The method of claim 1, wherein assigning the first specific time slot comprises:

masking a bit field of the first client device.

4. (Original) The method of claim 3, wherein the mask is wirelessly communicated to the first client device.

5. (Previously Presented) The method of claim 1, wherein the first class comprises at least one of a user associated with the first client device and a class of the first client device.

6. (Original) The method of claim 1, wherein assigning the first specific time slot is dependent on a network traffic load.

7. (Original) The method of claim 1, further comprising:

reassigning the first specific time slot to a third client device in response to a detection that the first client device is unavailable.

8. (Previously Presented) An apparatus, comprising:

a physical, portable key device for wirelessly communicating data with a fixed reader device when located in a wireless coverage area of the fixed reader device,

wherein the physical, portable key device is arranged to communicate with the fixed reader device during a time slot identified by a bit field stored in the key device, the time slot set according to a class associated with the physical, portable key device,

wherein the bit field is determined based on synchronization information wirelessly received by the key device and priority level data associated with the class.

9. (Original) The apparatus of claim 8, wherein the time slot is adjustable dependent on a mask applied to the bit field.

10. (Original) The apparatus of claim 9, wherein the mask is determined external to the key device.

11. (Original) The apparatus of claim 8, wherein the bit field represents an identification of the key device.

12-19. (Cancelled).

20. (Currently Amended) A system, comprising:

a network device arranged to wirelessly broadcast synchronization information in a first wireless coverage range; and

a portable client device for wirelessly communicating data with a reader device when the client device is located in communication proximity of the reader device, the client device ~~adapted to store~~ for storing a bit field according to which a time slot is determined, the time slot being set according to a class associated with the portable client device,

wherein the client device is arranged to receive data from the network device during the time slot based on the synchronization information.

21. (Original) The system of claim 20, wherein the client device is further arranged to transmit data to the network device during the time slot.

22. (Original) The system of claim 20, wherein the time slot is determined based on a mask applied to a bit field stored in the client device, and wherein the mask is wirelessly communicated to the client device as part of the synchronization information wirelessly broadcasted by the network device.

23. (Original) The system of claim 20, wherein the synchronization information is dependent on at least one of a user associated with the client device, a class of a user associated with the client device, a class of the client device, and a network traffic load in the system.

24. (Previously Presented) A system, comprising:

a network device configured to wirelessly broadcast synchronization information; and

a portable client device configured to wirelessly receive the synchronization information, the received synchronization information comprising information assigning a time

slot during which the client device can receive data from the network device, the time slot being determined according to a class associated with the portable client device.

25. (Original) The system of claim 24, further comprising:

a reader device configured to proximity sense the client device, and further configured to communicate data with the client device in accordance with the synchronization information.

26. (Previously Presented) A method of facilitating data exchange, comprising:

wirelessly broadcasting synchronization information to a portable client device, the synchronization information comprising information assigning a time slot during which the client device can receive data, the time slot being determined according to a class associated with the portable client device; and

wirelessly broadcasting data for reception by the client device during the time slot.

REMARKS

Claims 1-11 and 20-26 were presented for examination. Claims 1-11 and 20-26 stand rejected in the Office Action dated July 7, 2011 (herein, "OA"). Claims 1 and 20 are amended. Claims 1-11 and 20-26 are pending upon entry of this amendment.

Claim Objections

Claim 20 is objected to because of informalities. Specifically, the OA alleges that use of the phrase "adapted to" is claim language that suggests or makes optional but does not require steps to be performed or that does not limit a claim to a particular structure (See MPEP 2111.04 [R-3]; MPEP 2106 [R-5]). This objection is overcome in view of the amended claims.

Claim 20 is amended herein to now recite "the client device for storing a bit field…" Therefore, the claim language objected to in the OA is removed, and reconsideration and withdrawal of the objection is respectfully requested.

Response to Rejections Under 35 U.S.C. § 112

Claims 1, 8, 20, 24, and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Specifically, on pages 2-3 of the OA, the Examiner asserts:

> and/or use the invention. According to claim 1, the claimed limitations "the first specific time slot is set according to a first class and the second specific time slot set according to a second class and priority level data associated with the first class and with the second class" are not found in the specification and non-enabling for further prosecution. Same issue applies to claim 8, the limitations "the time slot set according to a class associated with the physical , portable key device", claim 20, the limitations "the time slot being set according to a class associated with the portable client device", claim 24, "the time slot being determined according to a class associated with the portable client device", and claim 26, the limitations "the time slot being determined according to a class associated with the portable client device" are not found in the specification. The

Respectfully, Applicants respectfully disagree. On page 3 of the OA, Examiner asserts that the above limitations must be explained/defined very clearly and shown the precisely where the limitations have been found in paragraphs [00124] and [00125] in order to proceed. Specifically, the Examiner seems interested in the limitations regarding setting/determining a time slot according to a class.

Paragraph [00124] discloses:

> Thus, in other words, by reserving time slots for both client device transmission and reception (based on masks established by the network), client transmission and reception time slots may be efficiently coordinated to reduce collision likelihood and allow for tiered client access, assignment of specific classes, and/or targeting an individual user for preferential, non-contended system access. Further, in one or more embodiments, bit masks may be changed to include or exclude specific users (or classes of users). Still further, in one or more embodiments, bit masks may be changed to dynamically alter access to the network by users or classes of users as traffic load on the network changes.

Paragraph [00125] discloses:

> In an effort to reduce collision and coordinate the time slots that each client device "talks" with the reader device, a mask may be communicated to each client device to set the times at which the client device is to communicate with the reader device. Further,

> certain ones of the client devices may be afforded some level of priority, in which case the masks would be set accordingly. For example, masks may be set according to a class of a user of a PDK or to a class of the PDK itself. To facilitate such differentiation, priority level or tier level data may be present in an RDC or CRDC to be used when setting a mask for a particular client device or group thereof. Thus, in such a manner, there is provided a technique for dynamic real-time tiered client access.

In [00124], "client devices (e.g., PDKs)" teaches that one example of a client device is a PDK, which, according to one embodiment, is a physical, portable key device. In paragraph [00125], "a class of a user of a PDK or to a class of the PDK" teaches that one or more of the client device and the user of a client device are associated with a class. In paragraph [00124], "classes" is plural indicating that, in one embodiment, at least two classes, i.e., at least a first class and a second class, exist. In paragraph [00125], "masks may be set according to a class" teaches that masks may be set according to class. In paragraph [00124], "alter[ing] access to the network by users or classes of users" teaches that in at least one embodiment class is associated with access, which is further supported by context and the discussion of "tiered access," "preferential non-contended access" and "priority level" throughout paragraphs [00124] and [00125]. In paragraph [00125], a mask "set[s] the times at which the client device is to communicate with the reader device."

In summary, in at least one embodiment, a client device or its user is associated with a class. The class is associated with network access, e.g., a priority level, which is stored in the form of data. A mask is set according to the class. The mask sets the times, or time slot, the client communicates with the reader device. To simplify further, the time slot is set according to the class. A person having ordinary skill in the art will recognize that, in one embodiment, when two client devices (a first client device and a second client device) are present, and each client

device, or its user, is associated with a class (a first class and a second class, respectively), and each class is associated with a priority level (priority level data), a first time slot is set according to the first class for the first client device and a second time slot is set for the second client device according to the second class and based on the priority level data associated with the first class and with the second class.

Therefore, the specification contains a written description of the invention "in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which is it most nearly connected, to make and use the same," as required by 35 U.S.C. 112, therefore reconsideration and withdrawal of the rejections of claims 1, 8, 20, 24 and 26 is respectfully requested.

Response to Rejections Under 35 U.S.C. § 103

Claims 1, 3, 4, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Nakagawa et al. (US Pub. No. 2006/0205408) and further in view of Major et al. (US Patent #7,209,955). The rejection is traversed in view of independent claims 1 and 8, which will be discussed in order.

Independent claim 1, as amended, recites in part:

> . . . the first specific time slot set *according to a first class*; and
> . . . the second specific time slot set *according to a second class*,
> wherein the first and second specific time slots are determined based on synchronization information . . . and *priority level data associated with the first class and with the second class, and*
> *wherein the first class is associated with one or more of the first client device and a user of the first client device, and the second class is associated with one or more of the second client device and a user of the second client device.*

The assignment of classes (categories) beneficially allows for tiered client access. As explained in the specification, embodiments of the present invention relate to a technique for synchronizing (or "coordinating") multiple wireless cells, in any one of which an individual (or "user") can reliably and securely conduct one or more wireless transactions with some device in one or more of the cells. Particularly, in one or more embodiments, wireless cells are synchronized in order to prevent wireless collisions and extend the battery life of individual user units.

The cited references do not disclose or suggest, among other things, "the first specific time slot set *according to a first class*" and "the second specific time slot set *according to a second class*" as recited by claim 1. On pages 5-6 of the OA, the Examiner argues that Shloss discloses the above-quoted elements of claim 1 and cites column 3, lines 59-66 and column 7, lines 23-45. Specifically, the Examiner states:

> communicate with a fixed proximity-based reader (reader) device, the first specific time slot set according to a first class *(Col 3, lines 59-66 and Col 7, lines 23-45, Shloss teaches an increased number of transponders 114 can be accommodated by the TDMA network 100 since message repeat time is minimized. This combination of time slots provides the best results for the following reasons. The random time slot selection is convenient for entry into the TDMA network 100 but is a poor choice for uniquely communicating with a large number of vehicle transponders 114. The assigned time slots (more than one time slot) are efficient for communicating among a known list of vehicle transponders 114 (more than one transponder which can be first and second client device) wherein first specific time slot set according to a first class is obvious)*;

Respectfully, the Examiner is incorrect. Schloss does not disclose or suggest "the first specific time slot set *according to a first class*" and "the second specific time slot set *according to a second class*" in column 3, lines 59-66 or in column 7, lines 23-45. Specifically, column 3, lines 59-66 disclose:

> The invention is embodied in a TDMA network **100** of the type used in reader-transponder communications having an RF modulation/demodulation section **102** for modulating, demodulating and converting signals between an analog and digital format and a digital link controller **104** for decoding messages and providing a protocol structure to the reader-transponder communications as shown in FIG. **1**.

As Applicants explained in the previous office action response dated November 29, 2010, the cited portion of Shloss merely discloses a TDMA where a device includes an RF modulation/demodulation section that converts signals between an analog format and a digital format. Conversion of a signal between an analog and a digital format does not set a first specific time slot *according to a first class*, but merely modifies a signal format to facilitate wireless transmission of the signal by a device.

The remaining disclosure of Shloss makes no disclosure of a first class or a second class, so Shloss fails to disclose "the first specific time slot set *according to a first class*" and "the second specific time slot set *according to a second class*" as claimed.

Column 7, lines 23-45 discloses:

> Once an identification message from the vehicle transponder **114** is received and identified, the transponder **114** is assigned specific and unique time slots. Thereafter, data communication occurs between the reader **112** and the vehicle transponder **114** in the assigned time slots. Entry of a vehicle transponder **114** to the TDMA network **100** is not permitted during the assigned time slots. This protocol rule eliminates interference between response signals of different vehicle transponders **114** and ensures a very high data communication success rate between the reader **112** and the transponders **114**. Further, an increased number of transponders **114** can be accommodated by the TDMA network **100** since message repeat time is minimized. This combination of time slots provides the best results for the following reasons. The random time slot selection is convenient for entry into the TDMA network **100** but is a poor choice for uniquely communicating with a large number of vehicle transponders **114**. The assigned time slots are efficient for communicating among a known list of vehicle transponders **114** but entry into the TDMA network **100** by vehicle transponders **114** is difficult.

As the Applicants explained in the previous office action response dated November 29, 2010, at most, the cited portion of Shloss makes a generalized disclosure of assigning specific and unique time slots and describes the benefits of assigning specific and unique time slots to different devices. Neither the cited portion of Shloss nor the remaining disclosure of Shloss describes using a ***class*** associated with a portable client device to set the time slot during which the portable client device communicates. While the claimed invention recites "the time slot being set *according to a class* associated with the portable client device," the cited portion of Shloss, as well as the remaining disclosure of Shloss, makes no disclosure or suggestion of associating a ***class*** with a device or of using the associated ***class*** to set the time slot used by the portable client device.

Nakagawa fails to remedy the deficient disclosure of Shloss. Rather, Nakagawa discloses a radio communication system using network resources of both a mobile communications network and an ad-hoc network. Nakagawa discloses a radio communication apparatus

constructing an ad-hoc network with other proximate radio communication apparatuses using a TDD-CDMA system, where the radio communication apparatus also communicates with a base station of a mobile communications network using the TDD-CDMA system. Nakagawa, ¶ [0010], [0011]. At most, Nakagawa discloses an ad-hoc network where a first radio communication device sets timing for communication with a second radio communication device in the ad-hoc network so that the timing corresponds to communication timing in a mobile communications network identified by synchronization information retrieved from a base station. Nakagawa, ¶ [0074].

However, Nakagawa does not disclose "a first ***class***" or "a second ***class***," much less "the first specific time slot set *according to a first class*" and "the second specific time slot set *according to a second class*," as claimed. At most, Nakagawa discloses allocating time slots for communication within an ad-hoc network based on a signal interference value or based on time slots used by a mobile communications network. Nakagawa, ¶ [0048], [0049]. Hence, time slots in Nakagawa are not set by a first class or by a second class, but are allocated based on network characteristics. Therefore, like Shloss, Nakagawa fails to disclose "the first specific time slot set *according to a first class*" and "the second specific time slot set *according to a second class*," as claimed.

By the examiner's own admission Nakagawa does not disclose setting a time slot according to a class as recited in the claims. Specifically, on page 19 of the OA, the Examiner admits:

> The combination of Nakagawa and Gous do not specifically teach the time slot being determined according to a class associated with the portable client device.

By admitting that Nakagawa in combination with another reference does not disclose setting a time slot according to a class, the Examiner admits that Nakagawa alone does not disclose setting a time slot according to a class.

Major fails to remedy the deficient disclosure of Shloss and Nakagawa. Rather, Major discloses pushing user-selected data items to a user's mobile data communication device and notifying the user in a user-selected manner. Major, column 3, lines 32-33, 50-53. Major also discloses that the data items can have a class associated with a priority level. Major, column 20, lines 5-6.

However, Major fails to disclose a class associated with a client device and/or its user, and a class associated with time slots much less "the first specific time slot set *according to a first class*" and "the second specific time slot set *according to a second class*," as claimed.

As will be discussed in greater detail below in reference to the priority level limitation, Major does not disclose "class" as recited in the claim. In Major, class is associated with data items; in the Applicants' specification, class is associated with one or more of the client device and the user of the client device. Furthermore, class in Major is not used to set a time slot.

Therefore, the cited references, both alone and in combination, fail to disclose "the first specific time slot set *according to a first class*" and "the second specific time slot set *according to a second class*" as claimed. Accordingly, claim 1 is patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

The cited references do not disclose or suggest, among other things, "*priority level data associated with the first class and with the second class*" as recited by claim 1. On pages 7-8 of

the OA, the Examiner argues that Major teaches priority level data associated with the first class and with the second class and cites column 19, line 62- column 20, line 6.

Respectfully, the Examiner is incorrect. Major does not disclose or suggest "*priority level data associated with the first class and with the second class*" in column 19, line 62- column 20, line 6. Specifically, column 19, line 62- column 20, line 6 discloses:

> preferred list. In this manner, the mobile device **24** can dynamically limit the amount of information being redirected to it by minimizing the number of senders on the preferred list. Other example commands include: (1) a message to change the configuration of the host system to enable the mobile device **24** to receive and process certain attachments; (2) a message to instruct the host system to redirect an entire data item to the mobile device in the situation where only a portion of a particular data item has been redirected; (3) a message to instruct the host system to modify the priority level associated with classes or sub-classes of data items.

Major discloses priority levels associated with classes of data items. However, this is not "*priority level data associated with the first class and with the second class*" as recited in claim 1. While the classes disclosed in Major are associated with different data items, the classes of the Applicant's application are associated with one or more of the client device and the user of the client device. Amended claim one now recites "the first class is associated with one or more of the first client device and a user of the first client device, and the second class is associated with one or more of the second client device and a user of the second client device" in order to clarify this distinction.

The amendment and foregoing interpretation are supported throughout the specification, for example, at paragraph [00125]. Disclosing a priority of data items does not disclose or suggest a priority of client devices or a priority of users of client devices.

Therefore, the cited references, both alone and in combination, fail to disclose "priority level data associated with the first class and with the second class, wherein the first class is associated with one or more of the first client device and a user of the first client device, and the second class is associated with one or more of the second client device and a user of the second client device" as claimed. Accordingly, claim 1 is patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claims 3 and 4 depend from claim 1, so all arguments advanced above with respect to claim 1 are also applicable to claims 3 and 4. Therefore, dependent claims 3 and 4 are also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of their rejection is respectfully requested.

Independent claim 8, as previously presented, recites in part:

> wherein the physical, portable key device . . . the time slot set *according to a class associated with the physical, portable key device*,
> wherein the bit field is determined based on synchronization information . . . and *priority level data associated with the class*.

Therefore, claim 8 recites similar elements as amended claim 1, so all arguments advanced above with respect to claim 1 are also applicable to claim 8 as previously presented. Accordingly, claim 8 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claims 10 and 11 depend from claim 8, so all arguments advanced above with respect to claim 8 are also applicable to claims 10 and 11. Therefore, dependent claims 10 and 11 are also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of their rejection is respectfully requested.

Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Nakagawa et al. (US Pub. No. 2006/0205408) in view of Major et al. (US Patent #7,209,955) and further in view of Bestler US Patent No. 5,517,502.

Claim 2 depends from claim 1, so all arguments advanced above with respect to claim 1 are hereby incorporated so as to apply to claim 2. Claim 9 depends form claim 8, so all arguments advanced above with respect to claim 1 are hereby incorporated so as to apply to claim 9. Therefore, claims 2 and 9 are also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of their rejection is respectfully requested.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Nakagawa et al. (US Pub. No. 2006/0205408) in view of Major et al. (US Patent #7,209,955) and further in view of Barany et al. (US Pub. No. 7,068,623).

Claims 5 and 6 depend from claim 1, so all arguments advanced above with respect to claim 1 are hereby incorporated so as to apply to claims 5 and 6. Therefore, claims 5 and 6 are also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of their rejection is respectfully requested.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Nakagawa et al. (US Pub. No. 2006/0205408) in view of Major et al. (US Patent #7,209,955) and further in view of Rabe US Patent No. 6,138,010.

Claim 7 depends from claim 1, so all arguments advanced above with respect to claim 1 are hereby incorporated so as to apply to claim 7. Therefore, claim 7 is also patentably distinct

from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claims 24 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakagawa et al. (US Pub. No. 2006/0205408) in view of Gous et al. (US 2002/0037732) and further in view of Virtanen (US 2002/0128017).

Independent claim 24, as previously presented, recites in part:

> . . . *the time slot being determined according to a class associated with the portable client device.*

The cited references do not disclose or suggest, among other things, "*the time slot being determined according to a class*" as recited by claim 24. On pages 19 of the OA, the Examiner argues that Virtanen discloses the above-quoted elements of claim 24. Specifically, the Examiner argues:

> The combination of Nakagawa and Gous do not specifically teach the time slot being determined according to a class associated with the portable client device.
>
> However, in related art, Virtanen teaches the time slot being determined according to a class associated with the portable client device (Paragraph 0026). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Virtanen to Nakagawa and Gous in order to have desired quality of service to the mobile station.

Paragraph 0026 of Virtanen discloses:

> [0026] The invention can be implemented in the HSCSD system by providing the subscriber data in the home location register HLR with a field which defines a subscriber-specific maximum value for a multislot class, i.e. the fact how many time slots the mobile user may request and how they can be divided between the uplink and the downlink directions. In the HSCSD system the mobile services switching centre MSC functions as an element which checks the subscriber's identification and authentication data and any maximum values defined for a multislot class in the home location register HLR or in the visitor location register VLR. In other respects the connection establishment and barring of connection establishment of the invention can be implemented in the same way as in the GPRS system. If the subscriber has not set any limit to the multislot class to be used, the maximum number of time slots to be allocated to the connection is not determined only on the basis of the available resources in the HSCSD, but also on the basis of the mobile station class. For example, more than five time slots cannot be allocated to a mobile station of class 1 in any case.

Virtanen at most discloses using a mobile station class to determine how many time slots the mobile user may request. The class therefore is determines a number of time slots. By contrast, paragraphs [00124] and [00125] Applicant's specification teach that class in certain circumstances determines whether a client device or its user has access to the network. For example, whether the client device is given a time slot and/or which time slot the client device is given. Disclosing a class that determines a number of time slots does not disclose or suggest a class that determines which time slot, if any, is assigned.

Therefore, the cited references, both alone and in combination, fail to disclose "*the time slot being determined according to a class*" as claimed. Accordingly, claim 24 is patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claim 25 depends from claim 24, so all arguments advanced above with respect to claim 24 are hereby incorporated so as to apply to claim 25. Therefore, claim 25 is also patentably

distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claims 20, 22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408) in view of Shloss et al. (US Patent #5,307,349).

Independent claim 20, as previously presented, recites in part:

. . . the time slot being set *according to a class associated with the portable client device*,

Therefore, claim 20 recites similar elements as amended claim 1, so all arguments advanced above with respect to claim 1 are also applicable to claim 20 as previously presented. Accordingly, claim 20 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claim 22 depends from claim 20, so all arguments advanced above with respect to claim 20 are hereby incorporated so as to apply to claim 22. Therefore, claim 22 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claim 25 depends from claim 24, so all arguments advanced above with respect to claim 24 are hereby incorporated so as to apply to claim 25. Therefore, claim 25 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408) in view of Shloss et al. (US Patent #5,307,349) and further in view of Bestler et al. (US Patent No. 5,517,502).

Claim 21 depends from claim 20, so all arguments advanced above with respect to claim 20 are hereby incorporated so as to apply to claim 21. Therefore, claim 21 is also patentably

distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408) in view of Shloss et al. (US Patent #5,307,349) and further in view of Barany et al. (US Pub. No. 7,068,623).

Claim 23 depends from claim 20, so all arguments advanced above with respect to claim 20 are hereby incorporated so as to apply to claim 23. Therefore, claim 23 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

CONCLUSION

Allowance of all claims is requested. If the Examiner believes that direct contact with the Applicants' attorney will advance the prosecution of this case, the Examiner is encouraged to contact the undersigned as indicated below.

Respectfully submitted,
DAVID L. BROWN ET AL.

Dated: October 7, 2011 By: /Kanda Ishihara/

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Electronic Acknowledgement Receipt

EFS ID:	11145127
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	89194
Filer:	Kanda Ishihara
Filer Authorized By:	
Attorney Docket Number:	10001-02095
Receipt Date:	07-OCT-2011
Filing Date:	05-JAN-2007
Time Stamp:	17:05:33
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		02095_US_AmendmentC.pdf	754827 00350b93a6a55c8a36d540c13e0f1a92e6e0d02b	yes	22

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment Copy Claims/Response to Suggested Claims	1	1
	Claims	2	5
	Applicant Arguments/Remarks Made in an Amendment	6	22
Warnings:			
Information:			
	Total Files Size (in bytes):	754827	

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.

New Applications Under 35 U.S.C. 111
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.

National Stage of an International Application under 35 U.S.C. 371
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.

New International Application Filed with the USPTO as a Receiving Office
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/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
11/620,577	01/05/2007	

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			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 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).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	10/07/2011	(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 ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 18	Minus	** 26	= 0	X $30 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 5	Minus	***6	= 0	X $125 =	0	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	0	OR	TOTAL ADD'L FEE	

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
	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 number found in the appropriate box in column 1.

Legal Instrument Examiner:
/BURNELL ROSS/

This collection of information is required by 37 CFR 1.16. 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, 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.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/620,577	01/05/2007	David L. Brown	10001-02095 US	9508

89194 7590 12/15/2011

Patent Law Works/Proxense
165 South Main St
Suite 2
Salt Lake City, UT 84111

EXAMINER	
REGO, DOMINIC E	
ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
12/15/2011	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):

docketing@patentlawworks.net
kishihara@patentlawworks.net
jnakao@patentlawworks.net

PTOL-90A (Rev. 04/07)

Office Action Summary	Application No.	Applicant(s)	
	11/620,577	BROWN ET AL.	
	Examiner	Art Unit	
	DOMINIC E. REGO	2618	

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

Period for Reply

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

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

Status

1)☒ Responsive to communication(s) filed on *07 October 2011*.

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) *1-11 and 20-26* is/are pending in the application.

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

6)☒ Claim(s) *1-7* is/are allowed.

7)☒ Claim(s) *8-11 and 20-26* is/are rejected.

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

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

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).

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

Priority under 35 U.S.C. § 119

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

a)☐ All b)☐ Some * c)☐ None of:

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

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

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

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

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/26/2011*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

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

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

2. Claims 8,10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Parantainen et al. (US 2003/0223394) in view of Nakagawa et al. (US Pub. No. 2006/0205408) and further in view of Major et al. (US Patent #7,209,955).

Regarding claim 8, Shloss teaches an apparatus, comprising:

a physical, portable key device (transponder) for wirelessly communicating data with a fixed reader device when located in a wireless coverage area of the fixed reader device (Col 7, lines 23-45 and Col 8, lines 33-52),

wherein the physical, portable key device is arranged to communicate with the fixed reader device during a time slot identified by a bit field stored in the key device *(Col 7, lines 23-45 and Col 8, lines 33-52, especially Col 7, lines 23-45, Shloss teaches the assigned time slots (more than one time slot) are efficient for communicating among a known list of vehicle transponders 114 (more than one transponder which can be first and second client device. Col 3, lines 44-52, Shloss teaches the vehicle transponder*

INTEL-1008
U.S. Patent 8,457,672

114 randomly selects one of the sixteen activation time slots 152 and transmits a short transponder identification message 160 shown in FIG. 4b to the reader 112. The transponder identification message 160 contains a unique identification number used to gain access to the TDMA network 100. The unique transponder identification number is stored in the memory 138 of the vehicle transponder shown in FIG. 2, wherein the time slot set according to a class associated with the physical, portable key device or transponder is obvious), but does not specifically teach the time slot set according to a class associated with the physical, portable key device, wherein the bit field is determined based on synchronization information wirelessly received by the key device and priority level data associated with the class.

However, in related art, Parantainen teaches the time slot set according to a class associated with the physical, portable key device (Paragraph 0008). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Parantainen to Shloss in order to enable mobile terminals to receive/transmit broadcast information without significant interruptions.

The combination of Shloss and Parantainen do not specifically teach wherein the bit field is determined based on synchronization information wirelessly received by the key device and priority level data associated with the class.

However, in related art, Nakagawa teaches wherein the bit field (*included in the time-slot)* is determined based on synchronization information wirelessly received by the key device *(See Fig. 1, and paragraphs 0067-0074, especially paragraph 0067, Nakagawa teaches the first radio communication apparatus 10 (PDA, PC, or Mobile*

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phone) is a node X. Paragraph 0074 teaches the node X) also performs processing for receiving a signal from the base station 30, obtaining information for synchronization included in a predetermined time slot (fit field included in the time slot) of the received signal, and setting timing for communications with the node Y so that it corresponds to the communication timing in the mobile communications network, based on the synchronization information, so the first and second time slots are determined based on synchronization information wirelessly received by the first and second node X). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Nakagawa to Shloss and Parantainen in order to improve communication characteristics and enhance the communication capacity and the throughput of the entire network.

The combination of Shloss, Parantainen, and Nakagawa do not specifically teach priority level data associated with the class.

However, in related art, Major teaches priority level data associated with the class (Col 19, line 62-Col 20, line 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Major to Shloss, Parantainen and Nakagawa in order to maintain the highest possible quality of the data stream.

Regarding claim 10, the combination of Shloss, Parantainen, Nakagawa, and Major teach all the claimed elements in claim 1. In addition, Shloss discloses an apparatus of claim 9, wherein the mask is determined external to the key device *(sixty-four bit seed field is formed by the reader) (column 9, lines 65-68).*

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Regarding claim 11, the combination of Shloss, Parantainen, Nakagawa, and Major teach all the claimed elements in claim 1. In addition, Shloss teaches the apparatus of claim 8, wherein the bit field represents an identification of the key device (unique identification number) (column 8, lines 43-52).

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent #5,307,349) in view of Parantainen et al. (US 2003/0223394) in view of Nakagawa et al. (US Pub. No. 2006/0205408) in view of Major et al. (US Patent #7,209,955) and further in view of Bestler US Patent No. 5,517,502.

Regarding claim 9, the combination of Shloss, Parantainen, Nakagawa, and Major teach all the claimed elements in claim 8. In addition, Shloss teaches adjusting the time slot for another time slot based on the mask (slots are identified by letter codes or masks and are adjusted dependent on those masks) (column 10, lines 38-67), but does not teach the apparatus of claim 8, wherein the time slot is adjustable dependent on a mask applied to the bit field.

However, in related art, Bestler teaches the apparatus of claim 8, wherein the time slot is adjustable dependent on a mask applied to the bit field *(Column 4, lines 48-58 teach the width and timing location of the time slots for a subscriber terminal are programmably controlled from the headend to accommodate dynamic changes within the network and making adjustments to the time slots or controlling the width and number of the time slots)*. Therefore, it would have been obvious to one of ordinary skill

in the art at the time of the invention to provide the above teaching of Bestler to Shloss, Parantainen, Nakagawa, and Major in order to improve overall throughput.

4. Claims 20, 22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408) in view of Shloss et al. (US Patent #5,307,349), and further in view of Parantainen et al. (US 2003/0223394).

Regarding claim 20, Nakagawa teaches a system, comprising:

a network device arranged to wirelessly broadcast synchronization information in a first wireless coverage range (Paragraphs 0067 and 0074); and

wherein the client device is arranged to receive data from the network device during the time slot based on the synchronization information (Paragraphs 0067 and 0074), but does not specifically teach a portable client device for wirelessly communicating data with a reader device when the client device is located in communication proximity of the reader device, the client device adapted to store a bit field according to which a time slot is determined, the time slot being set according to a class associated with the portable client device.

However, in related art, Shloss teaches a portable client device for wirelessly communicating data with a reader device when the client device is located in communication proximity of the reader device, the client device adapted to store a bit field according to which a time slot is determined *(Col 7, lines 23-45 and Col 8, lines 33-52, especially Col 7, lines 23-45, Shloss teaches the assigned time slots (more than one time slot) are efficient for communicating among a known list of vehicle transponders*

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114 (more than one transponder which can be first and second client device. Col 3, lines 44-52, Shloss teaches the vehicle transponder 114 randomly selects one of the sixteen activation time slots 152 and transmits a short transponder identification message 160 shown in FIG. 4b to the reader 112. The transponder identification message 160 contains a unique identification number used to gain access to the TDMA network 100. The unique transponder identification number is stored in the memory 138 of the vehicle transponder shown in FIG. 2, wherein the time slot set according to a class associated with the physical, portable key device or transponder is obvious). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Shloss to Nakagawa in order to properly transmit the signal to the target reader.

The combination of Nakagawa and Shloss do not specifically teach the time slot being set according to a class associated with the portable client device.

However, in related art, Parantainen teaches the time slot being set according to a class associated with the portable client device (Paragraph 0008). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Parantainen to Nakagawa and Shloss in order to enable mobile terminals to receive/transmit broadcast information without significant interruptions.

Regarding claim 22, the combination of Nakagawa, Shloss, and Parantainen teach all the claimed elements in claim 20. In addition, Shloss teaches the system of claim 20, wherein the time slot is determined based on a mask applied to a bit field

stored in the client device, and wherein the mask is wirelessly communicated to the client device as part of the synchronization information wirelessly broadcasted by the network device (column 10, line 54-column 11, line 7).

Regarding claim 25, the combination of Nakagawa, Shloss, and Parantainen teach all the claimed elements in claim 20. In addition, Nakagawa teaches the system of claim 24, further comprising: communicate data with the client device in accordance with the synchronization information (Paragraph 0074), but does not specifically teach a reader device configured to proximity sense the client device.

However, in related art, Shloss teaches a reader device configured to proximity sense the client device (short range within 100 feet) (column 7, lines 46-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Shloss to Nakagawa and Parantainen in order to properly transmit the signal to the target reader.

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408) in view of Shloss et al. (US Patent #5,307,349) in view Parantainen et al. (US 2003/0223394) and further in view of Bestler et al. (US Patent No. 5,517,502).

Regarding claim 21, the combination of Nakagawa, Shloss, and Parantainen teach all the claimed elements in claim 20. In addition, Shloss discloses setting time slots and changing the time slots based on network traffic (column 8, lines 43-52), but

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does not specifically disclose the system of claim 20, wherein the client device is further arranged to transmit data to the network device during the time slot.

However, in related art, Bestler discloses the system of claim 20, wherein the client device is further arranged to transmit data to the network device during the time slot *(Column 4, lines 48-58 teach the width and timing location of the time slots for a subscriber terminal are programmably controlled from the headend to accommodate dynamic changes within the network and making adjustments to the time slots or controlling the width and number of the time slots).* Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Bestler to Nakagawa, Shloss, and Parantainen in order to improve overall throughput.

6. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408) in view of Shloss et al. (US Patent #5,307,349) in view of Parantainen et al. (US 2003/0223394) and further in view of Barany et al. (US Pub. No. 7,068,623).

Regarding claim 23, the combination of Nakagawa, Shloss, and Parantainen fail to teach the system of claim 20, wherein the synchronization information is dependent on at least one of a user associated with the client device, a class of a user associated with the client device, a class of the client device, and a network traffic load in the system.

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However, in related art, Barany teaches the system of claim 20, wherein the synchronization information is dependent on at least one of a user associated with the client device, a class of a user associated with the client device, a class of the client device, and a network traffic load in the system (assigning based on different traffic classes) (column 5, line 51-column 6, line 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Nakagawa, Shloss, and Parantainen time slot assignment by Barany's time slot assignment based on traffic because Barany states that a multiplexer may be used in silent periods to combine flow of the network traffic reducing possible traffic collisions (column 6, lines 20-37).

7. Claims 24 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakagawa et al. (US Pub. No. 2006/0205408) in view of Gous et al. (US 2002/0037732) and further in view of Parantainen et al. (US 2003/0223394).

Regarding claim 24, Nakagawa teaches a system, comprising:

a network device configured to wirelessly broadcast synchronization information (Paragraph 0074); and

a portable client device configured to wirelessly receive the synchronization information (Paragraph 0074), but does not specifically teach the received synchronization information comprising information assigning a time slot during which the client device can receive data from the network device, the time slot being determined according to a class associated with the portable client device.

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However, in related art, Gous teaches the received synchronization information comprising information assigning a time slot during which the client device can receive data from the network device (See Abstract; claim 1; Paragraphs 0012 and 0013). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Gous to Nakagawa in order to transmit/receive data from the mobile unit/base station to the base station/mobile unit so that data from the mobile unit/base station arrives at the mobile unit/base station during the assigned time slot for that particular mobile unit/base station.

The combination of Nakagawa and Gous do not specifically teach the time slot being determined according to a class associated with the portable client device.

However, in related art, Parantainen teaches the time slot being determined according to a class associated with the portable client device (Paragraph 0008). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Parantainen to Nakagawa and Gous in order to have desired quality of service to the mobile station.

Regarding claim 26, Nakagawa teaches a method of facilitating data exchange, comprising: wirelessly broadcasting synchronization information to a portable client device (Paragraph 0074), but does not specifically teach the synchronization information comprising information assigning a time slot during which the client device can receive data, the time slot being determined according to a class associated with the portable client device; and wirelessly broadcasting data for reception by the client device during the time slot.

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However, in related art, Gous teaches the synchronization information comprising information assigning a time slot during which the client device can receive data; and wirelessly broadcasting data for reception by the client device during the time slot (See Abstract; claim 1; Paragraphs 0012 and 0013). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Gous to Nakagawa in order to transmit/receive data from the mobile unit/base station to the base station/mobile unit so that data from the mobile unit/base station arrives at the mobile unit/base station during the assigned time slot for that particular mobile unit/base station.

The combination of Nakagawa and Gous do not specifically teach the time slot being determined according to a class associated with the portable client device.

However, in related art, Parantainen teaches the time slot being determined according to a class associated with the portable client device (Paragraph 0026). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Parantainen to Nakagawa and Gous in order to have desired quality of service to the mobile station.

Allowable Subject Matter

8. Claims 1-7 are allowed.

9. The following is an examiner's statement of reasons for allowance:

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Regarding claim 1, the prior art fails to teach the first specific time slot set according to a first class and the second specific time slot set according to a second class, wherein the first class is associated with one or more of the first client device and a user of the first client device, and the second class is associated with one or more of the second client device and a user of the second client device.

Dependent claims 2-7 are allowed for the same reason.

EXAMINER'S NOTE: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. SEE MPEP 2141.02 [R-5] VI. PRIOR ART MUST BE CONSIDERED IN ITS ENTIRETY, INCLUDING DISCLOSURES THAT TEACH AWAY FROM THE CLAIMS: A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) In re Fulton, 391 F.3d 1195, 1qw201,73 USPQ2d 1141, 1146 (Fed. Cir. 2004). >See also MPEP §2123.

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Response to Arguments

10. Applicant's arguments filed 10/07/2011, with respect to the rejection(s) of claim(s) 1-11 and 20-26 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Parantainen et al. (US 2003/0223394).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kanerva et al. (US Patent #6,240,076), Onouchi (US 2001/0024428).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E. REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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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.

/DOMINIC E REGO/
Primary Examiner, Art Unit 2618
Tel 571-272-8132

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Notice of References Cited	Application/Control No. 11/620,577	Applicant(s)/Patent Under Reexamination BROWN ET AL.	
	Examiner DOMINIC E. REGO	Art Unit 2618	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2003/0223394	12-2003	Parantainen et al.	370/336
*	B	US-6,240,076	05-2001	Kanerva et al.	370/330
*	C	US-2001/0024428	09-2001	Onouchi, Takakazu	370/329
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

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	N					
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Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

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

Application Number	11620577
Filing Date	2007-01-05
First Named Inventor	David L. Brown
Art Unit	2618
Examiner Name	Dominice Rego
Attorney Docket Number	10001-02095 US

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	6957086		2005-10-18	Bahl et al.	

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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	20020153996		2002-10-24	Chan et al.	
	2	20030109274		2003-06-12	Budka et al.	
	3	20050040961		2005-02-24	Tuttle	
	4	20060198337		2006-09-07	Hoang et al.	
	5	20060238305		2006-10-26	Loving et al.	

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Receipt date: 08/26/2011	Application Number	11620577	11620577 - GAU: 2618
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2007-01-05	
	First Named Inventor	David L. Brown	
	Art Unit	2618	
	Examiner Name	Dominice Rego	
	Attorney Docket Number	10001-02095 US	

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	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]
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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		☐

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EXAMINER SIGNATURE

Examiner Signature	/Dominic Rego/	Date Considered	12/07/2011

*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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Receipt date: 08/26/2011	Application Number	11620577	11620577 - GAU: 2618
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2007-01-05	
	First Named Inventor	David L. Brown	
	Art Unit	2618	
	Examiner Name	Dominice Rego	
	Attorney Docket Number	10001-02095 US	

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.

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

☐ A certification statement is not submitted herewith.

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	/Kanda Ishihara/	Date (YYYY-MM-DD)	2011-08-26
Name/Print	Kanda V. Ishihara	Registration Number	56607

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.**

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

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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.

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

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11620577	BROWN ET AL.
	Examiner	Art Unit
	DOMINIC E REGO	2618

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

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

CLAIM		DATE								
Final	Original	11/17/2009	06/19/2010	09/23/2010	07/01/2011	12/07/2011				
	1	✓	÷	✓	✓	=				
	2	✓	÷	✓	✓	=				
	3	✓	÷	✓	✓	=				
	4	✓	÷	✓	✓	=				
	5	✓	÷	✓	✓	=				
	6	✓	÷	✓	✓	=				
	7	✓	÷	✓	✓	=				
	8	✓	÷	✓	✓	✓				
	9	✓	÷	✓	✓	✓				
	10	✓	÷	✓	✓	✓				
	11	✓	÷	✓	✓	✓				
	12	✓	÷	-	-	-				
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	14	✓	÷	-	-	-				
	15	✓	÷	-	-	-				
	16	✓	÷	-	-	-				
	17	✓	÷	-	-	-				
	18	✓	÷	-	-	-				
	19	✓	÷	-	-	-				
	20	✓	÷	✓	✓	✓				
	21	✓	÷	✓	✓	✓				
	22	✓	÷	✓	✓	✓				
	23	✓	÷	✓	✓	✓				
	24	✓	÷	✓	✓	✓				
	25	✓	÷	✓	✓	✓				
	26	✓	÷	✓	✓	✓				

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11620577	BROWN ET AL.
	Examiner	Art Unit
	DOMINIC E REGO	2618

SEARCHED			
Class	Subclass	Date	Examiner
455	41.2	11/17/2009	LH
455	3.02, 13.2,502	9/23/2010	DR
375	145,149,240.28,293,355-257,262,363-365,368,370	9/23/2010	DR
Above	Updated	9/23/2010	DR

SEARCH NOTES		
Search Notes	Date	Examiner
assignee/inventor	11/17/2009	LH
EAST	11/17/2009	LH
PLUS	11/17/2009	LH
IEEE/Google	11/17/2009	LH
Updated EAST search	9/23/2010	DR
Updated EAST search	6/29/2011	DR
Updated EAST Search	12/7/2011	DR

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

/LAURI HARRIS/ Examiner.Art Unit 2618	

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S37	11	(time$slot time adj2 slot) with (set$4 determin$3) with class$2 with associat$3 with (cellular cell adj phone mobile portable pda terminal device user equipment wireless phone telephone cordless hand$held hand adj held wtru subscriber station$1 electronic near2 (device station terminal unit))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 14:30
S38	8	S37 and (@ad <= "20060106" @rlad <= "20060106" @pd <= "20060106")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 14:31
S39	2	(time$slot time adj2 slot) adj4 (set$4 determin$3) adj4 class$2 near5 (cellular cell adj phone mobile portable pda terminal device user equipment wireless phone telephone cordless hand$held hand adj held wtru subscriber station$1 electronic near2 (device station terminal unit))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 16:02
S41	13	(time$slot time adj2 slot) near5 (set$4 determin$3) near5 class$2 near5 (cellular cell adj phone mobile portable pda terminal device user equipment wireless phone telephone cordless hand$held hand adj held wtru subscriber station$1 electronic near2 (device station terminal unit))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 17:51
S42	12	S41 and (@ad <= "20060106" @rlad <= "20060106" @pd <= "20060106")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 17:52

12/ 7/ 2011 9:11:24 PM
C:\ Users\ drego\ Documents\ EAST\ Workspaces\ 11620577.wsp

IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

APPLICANTS:	David L. Brown et al.
APPLICATION NO:	11/620,577
FILING DATE:	January 5, 2007
TITLE:	Dynamic Real-Time Tiered Client Access
EXAMINER:	Dominic E. Rego
GROUP ART UNIT:	2618
ATTY. DKT. NO:	10001-02095 US

CERTIFICATE OF EFS-WEB TRANSMISSION

Pursuant to 240 OG 45 and the Legal Framework For EFS-Web, I hereby certify that this follow-on correspondence is being officially submitted through the USPTO EFS-Web system from the Pacific Time Zone of the United States on the local date shown below:

Dated: December 30, 2011 By: /Kanda Ishihara/

Kanda V. Ishihara, Reg. No. 56,607

COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

AMENDMENT D

Sir/Madam:

Responsive to the Office Action mailed on December 15, 2011, which sets a shortened statutory period for response that expires on March 15, 2012, please enter the following amendment and consider the following remarks.

IN THE CLAIMS

All pending claims are reproduced below.

1. (Previously Presented) A method of facilitating data exchange, comprising:

assigning a first specific time slot for a first client device to wirelessly communicate with a fixed proximity-based reader device, the first specific time slot set according to a first class; and

assigning a second specific time slot for a second client device to wirelessly communicate with the fixed proximity-based reader device, the second specific time slot set according to a second class,

wherein the first and second specific time slots are determined based on synchronization information wirelessly received by the first and second client devices and priority level data associated with the first class and with the second class, and

wherein the first class is associated with one or more of the first client device and a user of the first client device, and the second class is associated with one or more of the second client device and a user of the second client device.

2. (Original) The method of claim 1, further comprising:

dynamically adjusting at least one of the first specific time slot and the second specific time slot.

3. (Original) The method of claim 1, wherein assigning the first specific time slot comprises:

masking a bit field of the first client device.

4. (Original) The method of claim 3, wherein the mask is wirelessly communicated to the first client device.

5. (Previously Presented) The method of claim 1, wherein the first class comprises at least one of a user associated with the first client device and a class of the first client device.

6. (Original) The method of claim 1, wherein assigning the first specific time slot is dependent on a network traffic load.

7. (Original) The method of claim 1, further comprising:

reassigning the first specific time slot to a third client device in response to a detection that the first client device is unavailable.

8. (Currently Amended) An apparatus, comprising:

a physical, portable key device for wirelessly communicating data with a fixed reader device when located in a wireless coverage area of the fixed reader device,

wherein the physical, portable key device is arranged to communicate with the fixed reader device during a specific time slot identified by a bit field stored in the key device, the specific time slot set according to a class associated with one or more of the physical, portable key device and the user of the physical, portable key device,

wherein the ~~bit field~~ specific time slot is determined based on synchronization information wirelessly received by the key device and priority level data associated with the class.

9. (Original) The apparatus of claim 8, wherein the time slot is adjustable dependent on a mask applied to the bit field.

10. (Original) The apparatus of claim 9, wherein the mask is determined external to the key device.

11. (Original) The apparatus of claim 8, wherein the bit field represents an

identification of the key device.

12-19. (Cancelled).

20. (Currently Amended) A system, comprising:

a network device arranged to wirelessly broadcast synchronization information in a first wireless coverage range; and

a portable client device for wirelessly communicating data with a reader device when the client device is located in communication proximity of the reader device, the client device ~~for~~ storing a bit field ~~according to which~~ identifying a specific time slot ~~is determined~~, the specific time slot ~~being~~ set according to a class associated with one or more of the portable client device and the user of the portable client device,

wherein the client device is arranged to receive data from the network device during the specific time slot, the time slot determined based on the synchronization information and priority level data associated with the class.

21. (Original) The system of claim 20, wherein the client device is further arranged to transmit data to the network device during the time slot.

22. (Original) The system of claim 20, wherein the time slot is determined based on a mask applied to a bit field stored in the client device, and wherein the mask is wirelessly communicated to the client device as part of the synchronization information wirelessly broadcasted by the network device.

23. (Original) The system of claim 20, wherein the synchronization information is dependent on at least one of a user associated with the client device, a class of a user associated with the client device, a class of the client device, and a network traffic load in the system.

24. (Currently Amended) A system, comprising:

a network device configured to wirelessly broadcast synchronization information; and

a portable client device configured to wirelessly receive the synchronization information, the received synchronization information comprising information assigning a specific time slot during which the client device can receive data from the network device, the time slot being determined according to a priority level data associated with a class, the class associated with the one or more of the portable client device and the user of the portable client device.

25. (Original) The system of claim 24, further comprising:

a reader device configured to proximity sense the client device, and further configured to communicate data with the client device in accordance with the synchronization information.

26. (Currently Amended) A method of facilitating data exchange, comprising:

wirelessly broadcasting synchronization information to a portable client device, the synchronization information comprising information assigning a time slot during which the client device can receive data, the time slot being determined according to priority level data associated with a class, the class associated with one or more of the portable client device and the user of the portable client device; and

wirelessly broadcasting data for reception by the client device during the time slot.

REMARKS

Claims 1-11 and 20-26 were presented for examination. Claims 8-11 and 20-26 stand rejected in the Office Action dated December 15, 2011 (herein, "OA"). Claims 1-7 are allowed. Claims 8, 20, 24 and 26 are amended. Claims 8-11 and 20-26 are pending upon entry of this amendment.

Summary of Office Action

Claims 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent No. 5,307,349), hereinafter "Shloss" in view of Parantainen et al. (US 2003/0223394), hereinafter "Parantainen" in view of Nakagawa et al. (US Pub. No. 2006/0205408), hereinafter "Nakagawa" and further in view of Major et al. (US Patent #7,209,955), hereinafter "Major".

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent No. 5,307,349), hereafter "Shloss" in view of Parantainen et al. (US 2003/0223394), hereinafter "Parantainen" in view of Nakagawa et al. (US Pub. No. 2006/0205408), hereinafter "Nakagawa" in view of Major et al. (US Patent No. 7,209,955), hereinafter "Major" and further in view of Bestler (US Patent No. 5,517,502), hereinafter "Bestler".

Claims 20, 22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408), hereinafter "Nakagawa" in view of Shloss et al. (US Patent No. 5,307,349), hereinafter "Shloss" and further in view of Parantainen et al. (US 2003/0223394), hereinafter "Parantainen".

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408), hereinafter "Nakagawa" in view of Shloss et al. (US Patent No. 5,307,349), hereinafter "Shloss" in view of Parantainen et al. (US 2003/0223394), hereinafter

"Parantainen" and further in view of Bestler et al. (US Patent No. 5,517,502), hereinafter "Bestler".

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408), hereinafter "Nakagawa" in view of Shloss et al. (US Patent No. 5,307,349), hereinafter "Shloss" in view of Parantainen et al. (US 2003/0223394), hereinafter "Parantainen" and further in view of Barany et al. (US Pub. No. 7,068,623), hereinafter "Barany".

Claims 24 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakagawa et al. (US Pub. No. 2006/0205408), hereinafter "Nakagawa" in view of Gous et al. (US 2002/0037732), hereinafter "Gous" and further in view of Parantainen et al. (US 2003/0223394), hereinafter " Parantainen".

Response to Rejections under 35 U.S.C. § 103

Claims 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent No. 5,307,349), hereinafter "Shloss" in view of Parantainen et al. (US 2003/0223394), hereinafter "Parantainen" in view of Nakagawa et al. (US Pub. No. 2006/0205408), hereinafter "Nakagawa" and further in view of Major et al. (US Patent #7,209,955), hereinafter "Major". Claim 8 is amended to include language that mirrors the language of allowed claim1; however, the Examiner's rejection is traversed.

Independent Claim 8

Amended independent claim 8 recites, in part:

> . . . the physical, portable key device is arranged to communicate with the fixed reader device during a specific time slot . . . set according to *a class associated with one or more of the physical, portable key device and the user of the physical, portable key device*,
> wherein the *specific time slot is determined based on synchronization information*

wirelessly received by the key device and priority level data associated with the class.

Applicants' invention, therefore, beneficially arranges for each physical, portable key device to communicate with a fixed reader at a specific time to reduce collision likelihood. The specific time is determined based on synchronization information and priority level data associated with the class of the physical, portable key device and/or the user of the physical, portable key device. Thus, the Applicants' invention allows for tiered access, e.g., a certain class of user(s) and/or device(s) will have priority and be given preferential, non-contended access to a time slot in order to perform a secure transaction over another class of user(s) and/or device(s).

The cited references do not disclose or suggest, among other things, "a class associated with one or more of the physical, portable key device and the user of the physical, portable key device" and a "*priority level data associated with the class*."

On pages 3-4 of the OA, the Examiner argues that setting a time slot according to a class associated with the physical, portable device, wherein the time slot is determined at least in part by priority level data associated with the class of physical, portable device is disclosed by combining Parantainen and Major. Specifically, one page 3 of the OA, the Examiner argues:

> However, in related art, Parantainen teaches the time slot set according to a class associated with the physical, portable key device (Paragraph 0008). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Parantainen to Shloss in order to enable mobile terminals to receive/transmit broadcast information without significant interruptions.

On page 4 of the OA, the Examiner argues:

> However, in related art, Major teaches priority level data associated with the class (Col 19, line 62-Col 20, line 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Major to Shloss, Parantainen and Nakagawa in order to maintain the highest possible quality of the data stream.

Respectfully, the Applicants disagree, because Parantainen teaches away from priority level data and, moreover, the combination of Parantainen and Major does not disclose each and every element of claim 8.

Parantainen at most discloses that the reception and transmission capabilities of a mobile terminal depends on the mobile terminal's multislot class, and the simultaneous receipt of MBMS data by multiple mobile terminals by accounting for the multislot class constraints of the mobile terminals. Parantainen, ¶¶[0008] and [0015]. In other words, Parantainen discloses the simultaneous receipt of data by a mobile terminal regardless of the modile terminal's multislot class. This is demonstrated, for example, in the fourth embodiment of the invention in which the PMBCH is allocated to time slots such that a mobile terminal capable of receiving MBMS on two time slots and a terminal capable of receiving MBMS on three time slots can simultaneously receive data. Parantainen, ¶¶ [0050]-[0053].

Simultaneous receipt of data regardless of class teaches away from a priority level being associated with the class of device. Priority requires a right to take precedence or proceed before another, while simultaneous requires something to occur at the same time. Disclosing that events occurs at the same time teaches away from events preceding one another. MPEP 2145 (X)(D)(2) states:

> It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983).

Accordingly, it is improper for the Examiner to combine Parantainen with any reference disclosing priority level, and the combination of Parantainen and Major fails to discloses or suggest "a class associated with one or more of the physical, portable key device and the user of the physical, portable key device" and a "*priority level data associated with the class*" for at least this reason..

Moreover, the combination of Parantainen and Major fails to disclose the above quoted elements for additional reasons, which were previously raised in the Applicants' previous Office Action Response dated October 7, 2011 and are further expanded upon below.

Major at most discloses that the data items can have a class associated with a priority level. Major, column 20, lines 5-6. Major fails to disclose a class associated with a device and/or its user, and a class associated with time slots. In Major, class is associated with data items; in the Applicants' specification, class is associated with one or more of the device and the user of the device. Therefore, even assuming *arguendo* that the combination of Parantainen and Major is permissible. Neither Major nor Parantainen disclose or suggest that because a class of data item can have a priority level that either a class of device or a class of a user of the device can have an associated priority level.

Therefore, the cited references, both alone and in combination, fail to disclose "a class associated with one or more of the physical, portable key device and the user of the physical, portable key device" and a "*priority level data associated with the class*" as claimed. Accordingly, claim 8 is patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claims 10 and 11 depend from claim 8, so all arguments advanced above with respect to claim 8 are hereby incorporated so as to apply to claims 10 and 11. Therefore, claims 10 and 11

are also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of their rejection is respectfully requested.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shloss et al. (US Patent No. 5,307,349), hereafter "Shloss" in view of Parantainen et al. (US 2003/0223394), hereinafter "Parantainen" in view of Nakagawa et al. (US Pub. No. 2006/0205408), hereinafter "Nakagawa" in view of Major et al. (US Patent No. 7,209,955), hereinafter "Major" and further in view of Bestler (US Patent No. 5,517,502), hereinafter "Bestler".

Claim 9 depends form claim 8, so all arguments advanced above with respect to claim 8 are hereby incorporated so as to apply to claim 9. Therefore, claim 9 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of their rejection is respectfully requested.

Claims 24 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakagawa et al. (US Pub. No. 2006/0205408), hereinafter "Nakagawa" in view of Gous et al. (US 2002/0037732), hereinafter "Gous" and further in view of Parantainen et al. (US 2003/0223394), hereinafter "Parantainen".

Independent Claim 24

Independent claim 24, as amended, recites in part:

> a portable client device configured to wirelessly receive the synchronization information, the received synchronization information comprising information assigning a specific time slot during which the client device can receive data from the network device, the *time slot being determined according to a priority level data associated with a class, the class associated with the one or more of the portable client device and the user of the portable client device*.

Claim 24, as amended cites similar elements to claim 8. Specifically, the addition of "priority level data associated with the class" is not disclosed by Nakagawa, Gous or Parantainen

alone or in combination. As indicated on page 4 of the OA, the Examiner relies upon Major to disclose "priority level data associated with the class," which is not cited in the rejection. Therefore, each and every element amended claim 24 is not disclosed by the combination of Nakagawa, Gous and Parantainen.

However, even had Major been cited as part of the rejection, claim 24 recites similar elements as amended claim 8, so all arguments advanced above with respect to claim 8 are also applicable to claim 20. Accordingly, claim 24 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Independent Claim 26

Independent claim 26, as amended, recites in part:

> wirelessly broadcasting synchronization information to a portable client device, the synchronization information comprising information assigning a time slot during which the client device can receive data, the time slot being determined according to priority level data associated with a class, the class associated with one or more of the portable client device and the user of the portable client device;

Claim 26, as amended cites similar elements to claim 8. Specifically, the addition of "priority level data associated with the class" is not disclosed by Nakagawa, Gous or Parantainen alone or in combination. As indicated on page 4 of the OA, the Examiner relies upon Major to disclose "priority level data associated with the class," which is not cited in the rejection. Therefore, each and every element amended claim 26 is not disclosed by the combination of Nakagawa, Gous and Parantainen.

However, even had Major been cited as part of the rejection, claim 26 recites similar elements as amended claim 8, so all arguments advanced above with respect to claim 8 are also

applicable to claim 26. Accordingly, claim 26 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claims 20, 22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408), hereinafter "Nakagawa" in view of Shloss et al. (US Patent No. 5,307,349), hereinafter "Shloss" and further in view of Parantainen et al. (US 2003/0223394), hereinafter "Parantainen".

Independent Claim 20

Independent claim 20, as amended, recites in part:

> a portable client device . . . storing a bit field identifying a specific time slot, the specific time slot set according to *a class associated with one or more of the portable client device and the user of the portable client device*,
> wherein the client device is arranged to receive data from the network device during the specific time slot, the time slot determined based on the synchronization *information and priority level data associated with the class*.

Claim 20, as amended cites similar elements to claim 8. Specifically, the addition of "priority level data associated with the class" is not disclosed by Nakagawa, Shloss or Parantainen alone or in combination. As indicated on page 4 of the OA, the Examiner relies upon Major to disclose "priority level data associated with the class," which is not cited in the rejection. Therefore, each and every element amended claim 20 is not disclosed by the combination of Nakagawa, Shloss and Parantainen.

However, even had Major been cited as part of the rejection, claim 20 recites similar elements as amended claim 8, so all arguments advanced above with respect to claim 8 are also applicable to claim 20. Accordingly, claim 20 is also patentably distinct from the cited

references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claim 22 depends from claim 20, so all arguments advanced above with respect to claim 20 are hereby incorporated so as to apply to claim 22. Therefore, claim 22 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claim 25 depends from claim 24, so all arguments advanced above with respect to claim 24 are hereby incorporated so as to apply to claim 25. Therefore, claim 25 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of its rejection is respectfully requested.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408), hereinafter "Nakagawa" in view of Shloss et al. (US Patent No. 5,307,349), hereinafter "Shloss" in view of Parantainen et al. (US 2003/0223394), hereinafter "Parantainen" and further in view of Bestler et al. (US Patent No. 5,517,502), hereinafter "Bestler".

Claim 21 depends from claim 20, so all arguments advanced above with respect to claim 20 are hereby incorporated so as to apply to claim 21. Therefore, claim 21 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of their rejection is respectfully requested.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. (US Pub. No. 2006/0205408), hereinafter "Nakagawa" in view of Shloss et al. (US Patent No. 5,307,349), hereinafter "Shloss" in view of Parantainen et al. (US 2003/0223394), hereinafter

"Parantainen" and further in view of Barany et al. (US Pub. No. 7,068,623), hereinafter "Barany".

Claim 23 depends from claim 20, so all arguments advanced above with respect to claim 20 are hereby incorporated so as to apply to claim 23. Therefore, claim 23 is also patentably distinct from the cited references, both alone and in combination, so reconsideration and withdrawal of their rejection is respectfully requested.

CONCLUSION

Allowance of all claims is requested. If the Examiner believes that direct contact with Applicants' attorney will advance the prosecution of this case, the Examiner is encouraged to contact the undersigned as indicated below.

Respectfully submitted,
DAVID L. BROWN ET AL.

Dated: December 30, 2011 By: /Kanda Ishihara/

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Electronic Acknowledgement Receipt

EFS ID:	11739701
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	Dynamic Real-Time Tiered Client Access
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	89194
Filer:	Kanda Ishihara
Filer Authorized By:	
Attorney Docket Number:	10001-02095 US
Receipt Date:	30-DEC-2011
Filing Date:	05-JAN-2007
Time Stamp:	18:22:50
Application Type:	Utility under 35 USC 111(a)

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Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		02095_US_Amendment_D.pdf	296416 bcf3a3bb7db33699a029e298804e8ad0a939b3bd	yes	16

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment Copy Claims/Response to Suggested Claims	1	1
	Claims	2	5
	Applicant Arguments/Remarks Made in an Amendment	6	16
Warnings:			
Information:			
	Total Files Size (in bytes):	296416	

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.

New Applications Under 35 U.S.C. 111
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.

National Stage of an International Application under 35 U.S.C. 371
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.

New International Application Filed with the USPTO as a Receiving Office
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/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 11/620,577	Filing Date 01/05/2007	☐ To be Mailed

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			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 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).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 12/30/2011	(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 ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 18	Minus	** 26	= 0	X $30 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 5	Minus	***6	= 0	X $125 =	0	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	0	OR	TOTAL ADD'L FEE	

AMENDMENT	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
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 number found in the appropriate box in column 1.

Legal Instrument Examiner:
/MOLIKI MAY/

This collection of information is required by 37 CFR 1.16. 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, 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.

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

89194 7590 03/07/2012

Patent Law Works/Proxense
165 South Main St
Suite 2
Salt Lake City, UT 84111

EXAMINER
REGO, DOMINIC E

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 03/07/2012

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/620,577	01/05/2007	David L. Brown	10001-02095 US	9508

TITLE OF INVENTION: DYNAMIC REAL-TIME TIERED CLIENT ACCESS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$870	$300	$0	$1170	06/07/2012

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 SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

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

If the SMALL ENTITY is shown as NO:

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

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

II. PART B - FEE(S) TRANSMITTAL, 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.

PTOL-85 (Rev. 02/11)

INTEL-1008
U.S. Patent 8,457,672

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)

89194 7590 03/07/2012
Patent Law Works/Proxense
165 South Main St
Suite 2
Salt Lake City, UT 84111

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.
11/620,577	01/05/2007	David L. Brown	10001-02095 US	9508

TITLE OF INVENTION: DYNAMIC REAL-TIME TIERED CLIENT ACCESS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$870	$300	$0	$1170	06/07/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
REGO, DOMINIC E	2618	455-502000

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).

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

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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.
11/620,577	01/05/2007	David L. Brown	10001-02095 US	9508

89194 7590 03/07/2012

Patent Law Works/Proxense
165 South Main St
Suite 2
Salt Lake City, UT 84111

EXAMINER	
REGO, DOMINIC E	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 03/07/2012

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 654 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 654 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.

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.	Applicant(s)	
	11/620,577	BROWN ET AL.	
	Examiner	Art Unit	
	DOMINIC E. REGO	2618	

-- 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 *12/30/2011*.
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 *1-11 and 20-26*.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

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

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

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

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-11 and 20-26 are allowed.

2. The examiner's reason for allowing the independent claims 1, 8, 20, 24, and 26 are presented based on Applicant's Remarks filled on 12/30/2011.

Regarding claims 2-7, 9-11, 21-23, and 25, the claims are allowed as being dependent of claims 1, 8, 20, 24, and 26, respectively.

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

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E. REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

INTEL-1008
U.S. Patent 8,457,672

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.

/DOMINIC E REGO/
Primary Examiner, Art Unit 2618
Tel 571-272-8132

INTEL-1008
U.S. Patent 8,457,672

Notice of References Cited	Application/Control No. 11/620,577	Applicant(s)/Patent Under Reexamination BROWN ET AL.	
	Examiner DOMINIC E. REGO	Art Unit 2618	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,230,908	06-2007	Vanderaar et al.	370/203
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

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

NON-PATENT DOCUMENTS

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

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

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	7191	455/41.2,3.02,13.2,502.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:14
L3	32104	375/145,149,240.28,355-357,362-370.ccls. 370/252,512,442,314,320,350,503,345,324,503-514,350,510.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:28
L4	38555	1 or 3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:29
L5	15	broad$cast$3 same synchroni$6 same (tim$slot time near2 slot) same (cellular cell adj phone mobile portable pda terminal device user equipment wireless phone telephone cordless hand$free hand adj free hand$held hand adj held wtru subscriber station$1 electronic near2 (device station terminal unit) apparatus) same class	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:29
L6	5	4 and 5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:29
L7	3	6 and (@ad <= "20060106" @rlad <= "20060106" @pd <= "20060106")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:29
L8	8	broad$cast$3 same synchroni$6 same (tim$slot time near2 slot) same (cellular cell adj phone mobile portable pda terminal device user equipment wireless phone telephone cordless hand$free hand adj free hand$held hand adj held wtru subscriber station$1 electronic near2 (device station terminal unit) apparatus) same reader	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:31
L9	0	4 and 8	US-PGPUB; USPAT; USOCR; EPO; JPO;	OR	ON	2012/03/04 20:31

			DERWENT; IBM_TDB			
L14	11	broad$cast$3 same synchroni$6 same (tim$slot time near2 slot) same reader	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:34
L15	0	4 and 14	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:34
S49	90	(broad$cast$3 same synchroni$6 same (tim$slot time near2 slot) same (cellular cell adj phone mobile portable pda terminal device user equipment wireless phone telephone cordless hand$free hand adj free hand$held hand adj held wtru subscriber station$1 electronic near2 (device station terminal unit) apparatus)).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 18:34
S50	2	(broad$cast$3 same synchroni$6 same (tim$slot time near2 slot) same (cellular cell adj phone mobile portable pda terminal device user equipment wireless phone telephone cordless hand$free hand adj free hand$held hand adj held wtru subscriber station$1 electronic near2 (device station terminal unit) apparatus) same reader).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 18:35
S51	2	(broad$cast$3 same synchroni$6 same (tim$slot time near2 slot) same (cellular cell adj phone mobile portable pda terminal device user equipment wireless phone telephone cordless hand$free hand adj free hand$held hand adj held wtru subscriber station$1 electronic near2 (device station terminal unit) apparatus) same class).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 18:38

3/ 4/ 2012 8:37:07 PM
C:\ Users\ drego\ Documents\ EAST\ Workspaces\ 11620577.wsp

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11620577	BROWN ET AL.
	Examiner	**Art Unit**
	DOMINIC E REGO	2618

SEARCHED

Class	Subclass	Date	Examiner
455	41.2	11/17/2009	LH
455	3.02, 13.2,502	9/23/2010	DR
375	145, 149, 240.28, 293, 355-357, 362-370	9/23/2010	DR
Above	Updated	9/23/2010	DR
370	252, 512, 442, 314, 320, 350, 503, 345, 324, 503-514, 350, 510	3/4/2012	DR

SEARCH NOTES

Search Notes	Date	Examiner
assignee/inventor	11/17/2009	LH
EAST	11/17/2009	LH
PLUS	11/17/2009	LH
IEEE/Google	11/17/2009	LH
Updated EAST search	9/23/2010	DR
Updated EAST search	6/29/2011	DR
Updated EAST Search	12/7/2011	DR
Assignee, Inventor, and EAST search	3/4/2012	DR

INTERFERENCE SEARCH

Class	Subclass	Date	Examiner
	PGPUB Text Search-See Interference Search Printout	3/4/2012	DR

/LAURI HARRIS/ Examiner.Art Unit 2618	

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L10	2679	(david near2 brown).in. (fred near2 hirt).in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:32
L11	31	proxense.as.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:32
L12	90	(broad$cast$3 same synchroni$6 same (tim$slot time near2 slot) same (cellular cell adj phone mobile portable pda terminal device user equipment wireless phone telephone cordless hand$free hand adj free hand$held hand adj held wtru subscriber station$1 electronic near2 (device station terminal unit) apparatus)).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:32
L13	1	11 and 12	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:33
L16	3	(broad$cast$3 same synchroni$6 same (tim$slot time near2 slot) same reader).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:34
L17	0	11 and 16	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/03/04 20:34

3/4/2012 8:36:21 PM
C:\Users\drego\Documents\EAST\Workspaces\11620577.wsp

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11620577	BROWN ET AL.
	Examiner	**Art Unit**
	DOMINIC E REGO	2618

ORIGINAL		INTERNATIONAL CLASSIFICATION															
CLASS	SUBCLASS	CLAIMED										NON-CLAIMED					
455	502	H	0	4	B	7 / 00 (2006.01.01)											

CROSS REFERENCE(S)					
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				
455	503				
370	510	512	324	350	
375	240.28				

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

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1		17												
2	2		18												
3	3		19												
4	4	12	20												
5	5	13	21												
6	6	14	22												
7	7	15	23												
8	8	16	24												
9	9	17	25												
10	10	18	26												
11	11														
	12														
	13														
	14														
	15														
	16														

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	18	
/DOMINIC E REGO/ Primary Examiner.Art Unit 2618	03/04/2012	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

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)

89194 7590 05/07/2012
Patent Law Works/Proxense
165 South Main St
Suite 2
Salt Lake City, UT 84111

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.
11/620,577	01/05/2007	David L. Brown	10001-02095 US	9508

TITLE OF INVENTION: DYNAMIC REAL-TIME TIERED CLIENT ACCESS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$870	$300	$0	$1170	06/07/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
REGO, DOMINIC E	2618	455-502000

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 Patent Law Works LLP
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: Proxense, LLC
(B) RESIDENCE: (CITY and STATE OR COUNTRY): Bend, OR

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).

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

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 /Kanda Ishihara/ Date June 7, 2012

Typed or printed name Kanda V. Ishihara Registration No. 56,607

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

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

Electronic Patent Application Fee Transmittal

Application Number:	11620577
Filing Date:	05-Jan-2007
Title of Invention:	DYNAMIC REAL-TIME TIERED CLIENT ACCESS
First Named Inventor/Applicant Name:	David L. Brown
Filer:	Kanda Ishihara/Esther Kim
Attorney Docket Number:	10001-02095 US

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Publ. Fee- early, voluntary, or normal	1504	1	300	300
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	2501	1	870	870

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**1170**

Electronic Acknowledgement Receipt

EFS ID:	12963457
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	DYNAMIC REAL-TIME TIERED CLIENT ACCESS
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	89194
Filer:	Kanda Ishihara
Filer Authorized By:	
Attorney Docket Number:	10001-02095 US
Receipt Date:	07-JUN-2012
Filing Date:	05-JAN-2007
Time Stamp:	19:35:33
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$1170
RAM confirmation Number	6235
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Issue Fee Payment (PTO-85B)	02095US_IssueFeeTransmittal.pdf	317465 f5d4bcd5f8245322c6ffd607b32c99d712996923	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	31862 137070a915496536ed3431b5d197a5197cbe684f	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	349327		

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.

New Applications Under 35 U.S.C. 111
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.

National Stage of an International Application under 35 U.S.C. 371
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.

New International Application Filed with the USPTO as a Receiving Office
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.

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.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/620,577	07/10/2012	8219129	10001-02095 US	9508

89194 7590 06/20/2012

Patent Law Works/Proxense
165 South Main St
Suite 2
Salt Lake City, UT 84111

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 996 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):

David L. Brown, Jupiter, FL;
Fred S. Hirt, Brookfield, IL;

IR103 (Rev. 10/09)

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 NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY.DOCKET NO./TITLE	REQUEST ID
11/620,577	01/05/2007	David L. Brown	10001-02095 US	117522

Acknowledgement of Loss of Entitlement to Entity Status Discount

The entity status change request below filed through Private PAIR on 07/24/2020 has been accepted.

CERTIFICATIONS:

Change of Entity Status:

X Applicant changing to regular undiscounted fee status.
NOTE: Checking this box will be taken to be notification of loss of entitlement to small or micro entity status, as applicable.

This portion must be completed by the signatory or signatories making the entity status change in accordance with 37 CFR 1.4(d)(4).

Signature:	/Greg T. Sueoka/
Name:	Greg T. Sueoka
Registration Number:	33800

IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

FIRST INVENTOR:	David L. Brown
PATENT NO:	8,219,129
ISSUE DATE:	July 10, 2012
APPLICATION NO:	11/620,577
FILING DATE:	January 5, 2007
TITLE:	Dynamic Real-Time Tiered Client Access
EXAMINER:	Dominic E. Rego
GROUP ART UNIT:	2618
ATTY. DKT. NO:	10001-02095 US
CONFIRMATION NO:	9508

CERTIFICATE OF EFS-WEB TRANSMISSION UNDER 37 CFR § 1.8

I hereby certify that this correspondence is being transmitted via the U.S. Patent and Trademark Office electronic filing system (EFS-Web) to the USPTO on the date below.

Date: August 4, 2020 By: /Greg T. Sueoka/
Greg T. Sueoka, Reg. No. 33,800

MAIL STOP 16
COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

NOTIFICATION OF LOSS OF SMALL ENTITY STATUS UNDER 37 CFR 1.27(g)(2) AND PAYMENT OF DEFICIENCY IN FEES

Sir/Madam:

On or about June 11, 2020, the undersigned was made aware of the above-identified property having been licensed to a large entity since August 5, 2019. The undersigned is hereby

taking action to rectify the situation and the pay the fees associated with this application as a large entity. The amount of additional fees to be paid as a large entity are as follows:

Date Paid	Fee Code	Description	Amount Paid	Undiscounted Fee	Amount Owed
12/18/2019	2552	7.5 year maintenance fee – small entity	$1800	$3600	$1800
				Total Amount Owed:	$1800

The Director is hereby authorized to charge the above-identified fees totaling $1800 to Deposit Account No. 603148.

Respectfully submitted,

PROXENSE, LLC

Dated: August 4, 2020 By: /Greg T. Sueoka/

Greg T. Sueoka, Reg. No. 33,800
Attorney for Applicant
PATENT LAW WORKS LLP
310 East 4500 South, Suite 400
Salt Lake City, UT 84107
Tel.: (801) 258-9821
Fax: (801) 355-0160
Email: gsueoka@patentlawworks.net

GTS/kdl

Electronic Acknowledgement Receipt

EFS ID:	40192214
Application Number:	11620577
International Application Number:	
Confirmation Number:	9508
Title of Invention:	DYNAMIC REAL-TIME TIERED CLIENT ACCESS
First Named Inventor/Applicant Name:	David L. Brown
Customer Number:	89194
Filer:	Greg T. Sueoka
Filer Authorized By:	
Attorney Docket Number:	10001-02095 US
Receipt Date:	04-AUG-2020
Filing Date:	05-JAN-2007
Time Stamp:	17:59:49
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	Petition for review by the Office of Petitions	02095US_20200804_NoticeofLossofSmallEntityStatus.pdf	23065 a415ec4586baba6ffa7a0f046e1e89bc62e39088	no	2

Warnings:

INTEL-1008
U.S. Patent 8,457,672

Information:	
Total Files Size (in bytes):	23065

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.

New Applications Under 35 U.S.C. 111

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.

National Stage of an International Application under 35 U.S.C. 371

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.

New International Application Filed with the USPTO as a Receiving Office

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.

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/620,577	01/05/2007	David L. Brown	10001-02095 US	9508

89194 7590 10/20/2020

Patent Law Works/Proxense
Greg Sueoka
310 East 4500 South, Suite 400
Salt Lake City, UT 84107

EXAMINER	
REGO, DOMINIC E	

ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
10/20/2020	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):

docketing@patentlawworks.net
patents@patentlawworks.net

PTOL-90A (Rev. 04/07)

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

In re Patent No. 8,219,129	:	
Issue Date: July 10, 2012	:	
Application No. 11/620,577	:	NOTICE
Filed: January 5, 2007	:	
Attorney Docket No: 10001-02095 US	:	

This is a notice regarding the request for acceptance of a fee deficiency submission under 37 CFR 1.28(c) filed August 4, 2020.

The Office no longer investigates or rejects original or reissue applications under 37 CFR 1.56. 1098 Off. Gaz. Pat. Office 502 (January 3, 1989). Therefore, nothing in this Notice is intended to imply that an investigation was done.

The fee deficiency submission under 37 CFR 1.28(c) is hereby ACCEPTED.

This patented file is no longer entitled to small entity status. Accordingly, all future fees paid must be paid at the undiscounted rate.

Inquiries related to this communication should be directed to the Paralegal Specialist Debra Wyatt at (571) 272-3621

/DEBRA WYATT/
Paralegal Specialist, OPET