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# UTILITY PATENT APPLICATION TRANSMITTAL

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

Attorney Docket No.	DJL-1
First Inventor	DANIEL J LIN
Title	Peer-to-Peer based messaging method and device
Express Mail Label No.	ER 03624039 US

22141 U.S. PTO  
10/817994



## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

## ADDRESS TO:

Mail Stop Patent Application  
Commissioner for Patents  
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- Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original and a duplicate for fee processing)
- Applicant claims small entity status.  
See 37 CFR 1.27.
- Specification [Total Pages 11]  
(preferred arrangement set forth below)
  - Descriptive title of the invention
  - Cross Reference to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to sequence listing, a table, or a computer program listing appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
- Drawing(s) (35 U.S.C. 113) [Total Sheets 2]
- Oath or Declaration [Total Sheets 2]
  - Newly executed (original or copy)
  - Copy from a prior application (37 CFR 1.63(d))  
(for continuation/divisional with Box 18 completed)
  - DELETION OF INVENTOR(S)**  
Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
- Application Data Sheet. See 37 CFR 1.76

- CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
- Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
  - Computer Readable Form (CRF)
  - Specification Sequence Listing on:
    - CD-ROM or CD-R (2 copies); or
    - Paper
  - Statements verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

- Assignment Papers (cover sheet & document(s))
- 37 CFR 3.73(b) Statement  Power of Attorney  
(when there is an assignee)
- English Translation Document (if applicable)
- Information Disclosure Statement (IDS)/PTO-1449  Copies of IDS Citations
- Preliminary Amendment
- Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
- Certified Copy of Priority Document(s)  
(if foreign priority is claimed)
- Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
- Other: .....

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

Continuation  Divisional  Continuation-in-part (CIP) of prior application No.: .....

Prior application information:

Examiner: .....

Art Unit: .....

For CONTINUATION OR DIVISIONAL APPS only; The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

## 19. CORRESPONDENCE ADDRESS

Customer Number: [ ] OR  Correspondence address below

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Name (Print/Type)	DANIEL J LIN			Registration No. (Attorney/Agent)	47750		
Signature	[Signature]			Date	8/3/04		

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# FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

Complete if Known

Application Number	
Filing Date	April 5, 2004
First Named Inventor	DANIEL J LIN
Examiner Name	
Art Unit	
Attorney Docket No.	DJL-1

Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 655

### METHOD OF PAYMENT (check all that apply)

Check  Credit card  Money Order  Other  None

Deposit Account:

Deposit Account Number:   
 Deposit Account Name:

The Director is authorized to: (check all that apply)

Charge fee(s) indicated below  Credit any overpayments  
 Charge any additional fee(s) or any underpayment of fee(s)  
 Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

### FEE CALCULATION

#### 1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	385
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
<b>SUBTOTAL (1)</b>			<b>(\$)</b> 385

#### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims: 30 -20\*\* = 10 x 9 = 90  
 Independent Claims: 3 -3\*\* = 0 x =  
 Multiple Dependent: x =

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1202 18	2202 9	Claims in excess of 20	
1201 86	2201 43	Independent claims in excess of 3	
1203 290	2203 145	Multiple dependent claim, if not paid	
1204 86	2204 43	** Reissue independent claims over original patent	
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent	
<b>SUBTOTAL (2)</b>			<b>(\$)</b> 90

\*\*or number previously paid, if greater; For Reissues, see above

### FEE CALCULATION (continued)

#### 3. ADDITIONAL FEES

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for <i>ex parte</i> reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	180
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	
Other fee (specify)			
*Reduced by Basic Filing Fee Paid			
<b>SUBTOTAL (3)</b>			<b>(\$)</b> 180

<b>SUBMITTED BY</b>		<b>(Complete if applicable)</b>	
Name (Print/Type)	DANIEL J LIN	Registration No. (Attorney/Agent)	47750
Signature	DJL	Telephone	415-956-3005
		Date	4/08/04

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## Peer-to-Peer Mobile Instant Messaging Method and Device

### 5 **Field of the Invention**

The present invention relates generally to messaging techniques for mobile devices, and more specifically, a technique to establish peer-to-peer session-based instant messaging ("IM") communications among mobile devices without the need for IM registration.

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### **Background of the Invention**

Current instant messaging ("IM") technologies depend upon a registration system to enable end users to communicate with one another. For example, to establish an IM session on AOL's Instant Messenger ("AIM"), each participating end user must have registered with AOL and must log into an AIM server in order to use the service. This registration system creates a virtual network of registered users and the value to a new user in joining an IM service is directly related to the number of existing users already registered on the service. As more users register to use an IM service, the value of the IM service to registered users increases since registered users will be able establish IM sessions with an increasing number of users. Known as a "network effect," this phenomenon causes a further tipping effect, which is the natural tendency for few (or even a single) IM services to pull away from their competitors once they have gained an initial edge by registering a critical mass of users. This tipping effect tends to occur rapidly and stems, in part, from users' inclination to gravitate towards the IM services that they expect will become dominant. This tipping effect gives proprietary IM services such as AIM, Microsoft's .NET Messenger Service, and Yahoo! Messenger, that have achieved a large network of registered users, a strong barrier to entry into the IM market. As such, proprietary IM services may be reluctant to provide interoperability to other less established IM services since providing such access could cannibalize their competitive network advantage.

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From a technical perspective, the registration system used in IM services is necessary to provide *presence* capabilities. In order to establish an IM session, an end user must be registered with the IM service so that the end user can log into the service's IM server, which broadcasts the end user's availability to engage in IM sessions to an authorized group of the end user's peers that have also registered and logged into the IM server. The IM server also similarly provides the end user with a list of registered peers that are available to engage in an IM session. When end users engage in IM sessions over a traditional connected network environment, presence capabilities are a critical characteristic of an IM service because such capabilities are needed to provide an end user's peers with sufficient presence information (i.e., IP address and port number) in order to locate the end user within the network and establish a connection between the end user and a peer for an IM session. Furthermore, logging into an IM server also

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enables an end user to indicate whether or not he or she is physically present (e.g., sitting in front of a networked workstation or in front of a laptop that is connected the network) and willing to engage in an IM session.

5 However, IM services for mobile devices, such as smartphones, appear to have less a  
need for presence capabilities. Unlike establishing an IM session on a laptop, desktop or  
workstation, where the end user must broadcast his or her availability and presence information  
on the network when he or she is physically sitting in front of the laptop, desktop or workstation,  
10 establishing an IM session on a mobile device does not suffer from the same presence issues  
because the end user is presumed to be carrying the mobile device at all times. So long as the  
mobile device has enough contact information (e.g., cellular telephone number, PIN number, etc.)  
to directly communicate with other mobile devices through the underlying wireless network  
technology (e.g., cellular technology, etc.), an IM session could be initiated and established in a  
manner similar to making and answering mobile phone calls without the need for registering with  
or logging into an IM server in order to broadcast presence information to other end users for IM  
15 purposes.

Furthermore, unlike IM services in a traditional connected network environment,  
successful end user adoption of an IM service between mobile devices would not suffer from  
reliance upon establishing a critical mass of end users through a registration system. In contrast,  
such an IM service would be instantly usable to any and all end users of mobile devices so long  
20 as such mobile devices are already capable of directly communicating with other mobile devices  
through the underlying wireless mobile technology without needing further presence information  
(e.g., cellular phones directly communicating with other cellular phones through cellular telephone  
numbers). As such, what is needed is a method to establish IM sessions directly between mobile  
devices, where such mobile devices are capable of directly communicating with other mobile  
25 devices through the underlying wireless technology, such that no IM registration or log-in server is  
needed to provide presence information to other mobile devices for IM purposes.

### **Summary of the Invention**

30 The present invention provides a method for establishing a peer-to-peer session-based  
IM communications between mobile devices over a digital mobile network system that supports  
data packet-based communications. Under the present invention, no IM registration or IM log-in  
server need be used to provide presence information. Instead, a mobile device initiating an IM  
session opens a listening port defined by an underlying data packet based network protocol. The  
35 initiating mobile device sends an invitation message containing the network address, including  
the listening port, of the initiating device to a target mobile device through a page-mode  
messaging service supported by the digital mobile network system. The initiating mobile device  
further utilizes and incorporates a unique identification number (e.g., telephone number, PIN

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