



US008036366B2

(12) **United States Patent**
Chu

(10) **Patent No.:** **US 8,036,366 B2**
(45) **Date of Patent:** **Oct. 11, 2011**

(54) **INTELLIGENT FORMATTING OF VOIP TELEPHONE NUMBERS**

(75) Inventor: **Lon-Chan Chu**, Redmond, WA (US)

(73) Assignee: **Microsoft Corporation**, Redmond, WA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1406 days.

| | | | | |
|--------------|------|---------|------------------|------------|
| 6,999,458 | B2 | 2/2006 | Fowler | |
| 7,027,582 | B2 | 4/2006 | Khello et al. | |
| 7,336,949 | B2 * | 2/2008 | Nasielski | 455/435.1 |
| 2002/0136387 | A1 * | 9/2002 | Choi et al. | 379/220.01 |
| 2004/0243596 | A1 * | 12/2004 | Lillqvist et al. | 707/100 |
| 2005/0182781 | A1 | 8/2005 | Bouvet | |
| 2005/0243806 | A1 * | 11/2005 | Sakano et al. | 370/352 |
| 2006/0046785 | A1 | 3/2006 | Cagney | |
| 2006/0094353 | A1 * | 5/2006 | Nielsen et al. | 455/17 |
| 2007/0064919 | A1 * | 3/2007 | Chen et al. | 379/355.05 |
| 2010/0167726 | A1 * | 7/2010 | Schwalb | 455/433 |

OTHER PUBLICATIONS

McTaggart, Telephone Numbers, Domain Names, and Ennumbers, IEEE Communications Magazine, Sep. 2002.
Park, "Address Translation Method for Interworking Between Public and Private ATM Networks", Electronics and Telecommunications Research Institute, Jan. 19, 1998.

* cited by examiner

Primary Examiner — William Deane, Jr.

(74) *Attorney, Agent, or Firm* — Vierra Magen Marcus & DeNiro LLP

(21) Appl. No.: **11/462,540**

(22) Filed: **Aug. 4, 2006**

(65) **Prior Publication Data**

US 2008/0043718 A1 Feb. 21, 2008

(51) **Int. Cl.**
H04M 7/00 (2006.01)

(52) **U.S. Cl.** **379/220.01**; 379/219; 379/355.01

(58) **Field of Classification Search** 379/220.01, 379/219, 355.01, 355.05
See application file for complete search history.

(57) **ABSTRACT**

A system and method are disclosed for intelligent formatting of VoIP telephone numbers. The intelligent VoIP formatting system includes a presentation and user interface layer, an E.164 formatting engine, a location routine, and a database of telephone number data which are used to deconstruct input telephone numbers and reconstruct them as E.164 compliant telephone numbers.

(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | | | |
|-----------|------|---------|-----------------|---------|
| 5,467,381 | A | 11/1995 | Peltonen et al. | |
| 5,961,608 | A | 10/1999 | Onosaka et al. | |
| 6,108,540 | A | 8/2000 | Sonti et al. | |
| 6,594,257 | B1 | 7/2003 | Doshi et al. | |
| 6,751,481 | B2 * | 6/2004 | Chen et al. | 455/564 |
| 6,868,416 | B2 | 3/2005 | Choi et al. | |

16 Claims, 11 Drawing Sheets

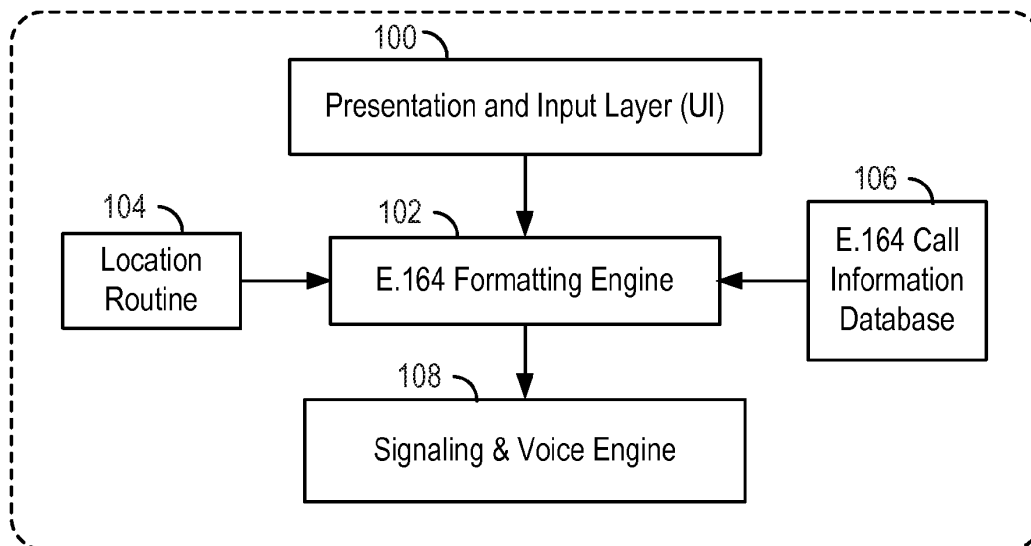


Fig. 1

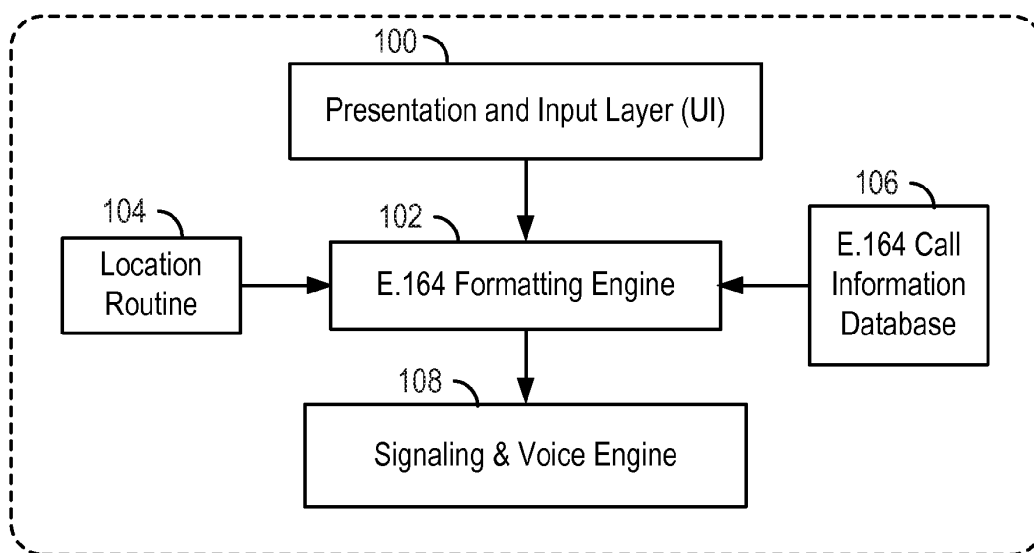


Fig. 2

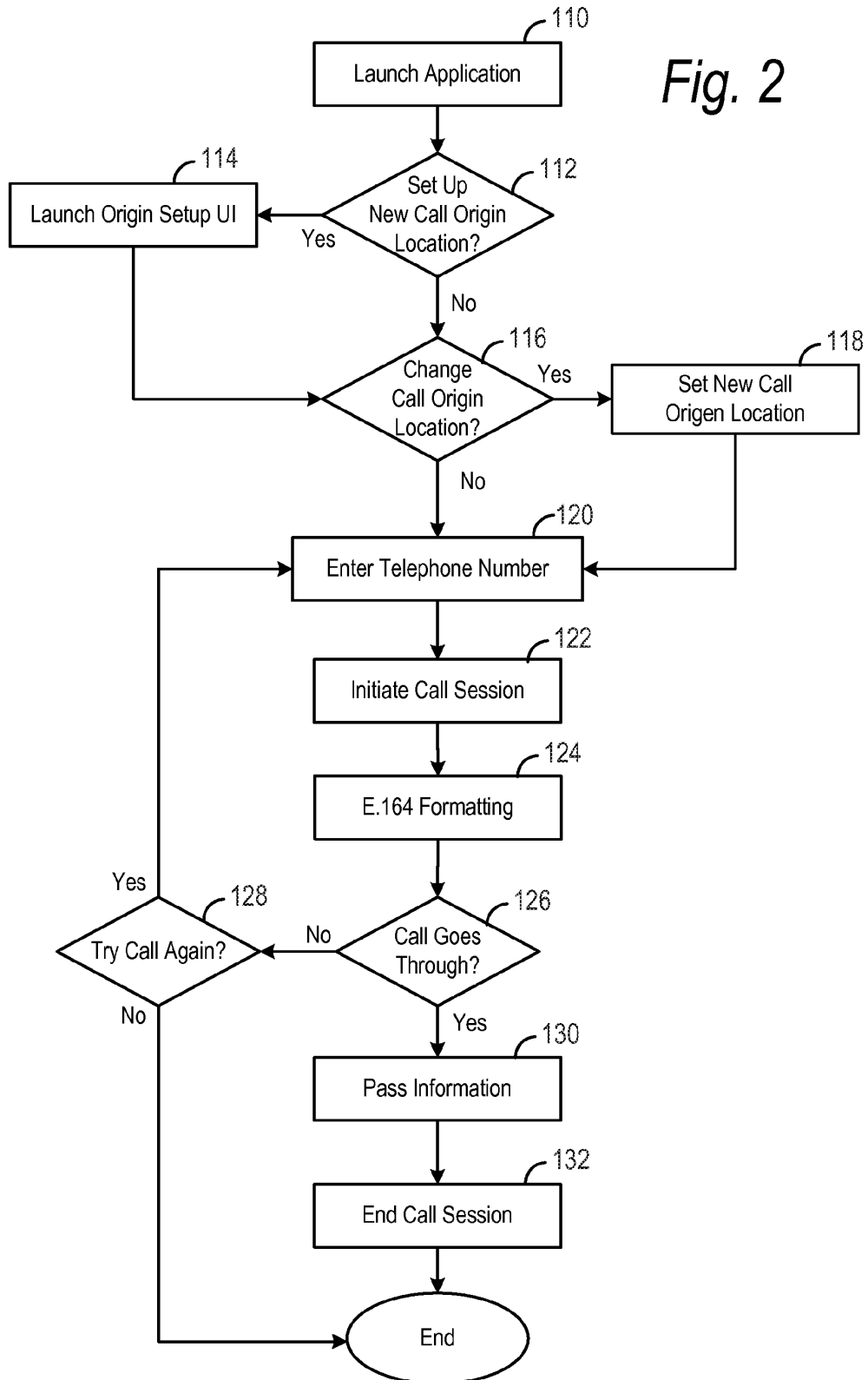


Fig. 3

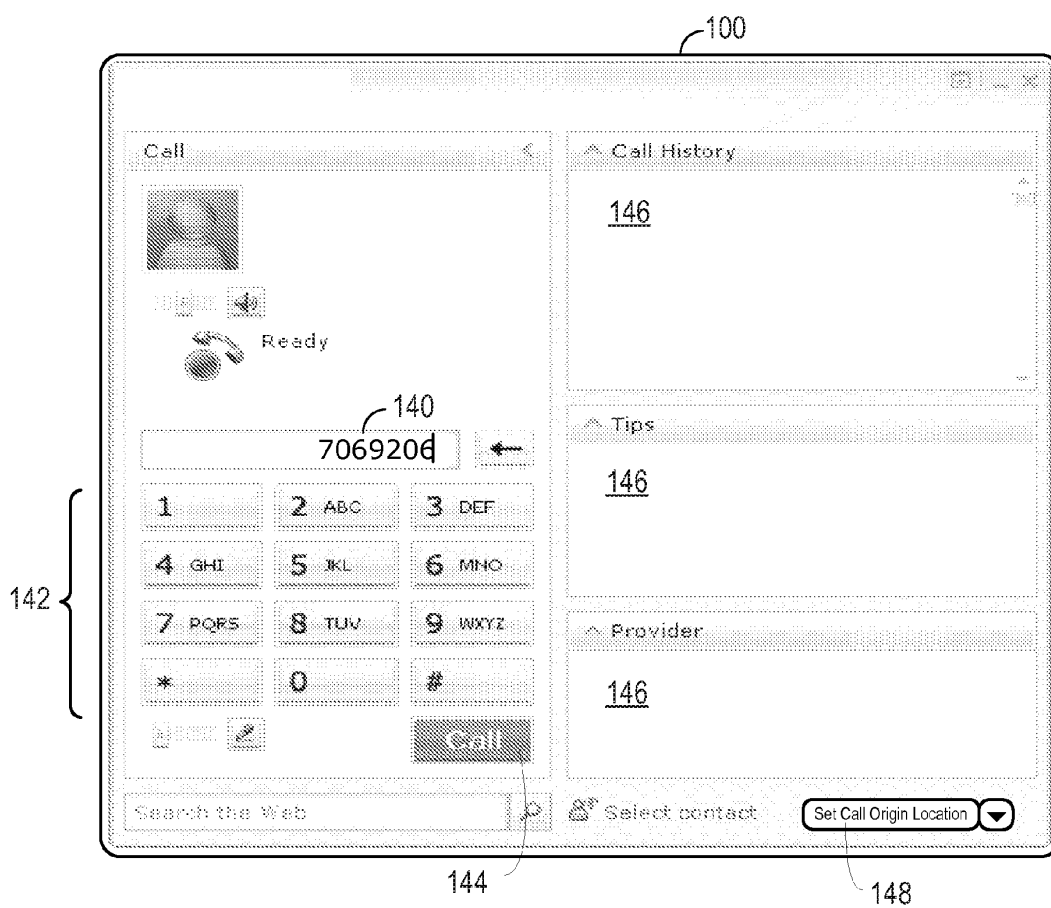
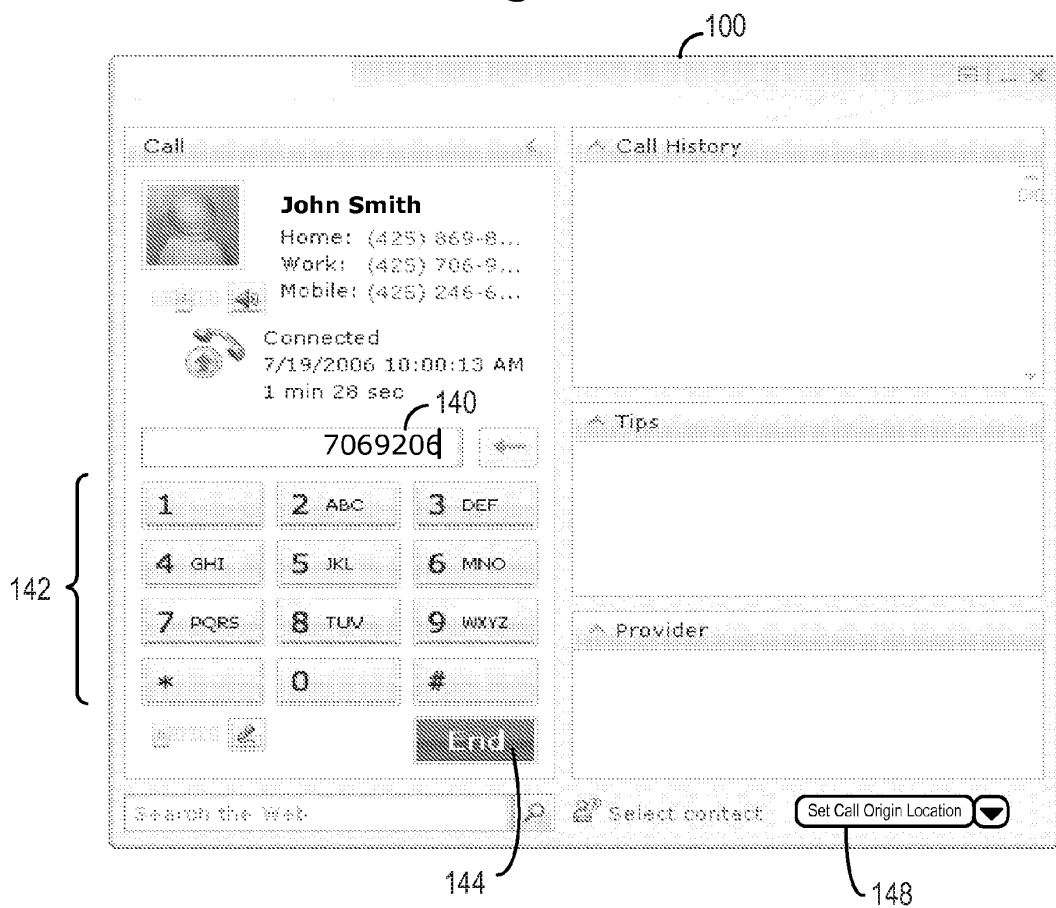


Fig. 4



Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.