

# Exhibit 16



US008572597B2

(12) **United States Patent**  
**Herle**

(10) **Patent No.:** **US 8,572,597 B2**  
(45) **Date of Patent:** **Oct. 29, 2013**

(54) **APPARATUS AND METHOD FOR PERFORMING AN OVER-THE-AIR SOFTWARE UPDATE IN A DUAL PROCESSOR MOBILE STATION**

2006/0195840 A1\* 8/2006 Sundarajan et al. .... 717/176  
2006/0258291 A1\* 11/2006 Nakata et al. .... 455/67.11  
2007/0015499 A1\* 1/2007 Vikse et al. .... 455/419  
2007/0142083 A1\* 6/2007 Cupps et al. .... 455/556.1  
2008/0020753 A1\* 1/2008 Glass et al. .... 455/425

(75) Inventor: **Sudhindra P. Herle**, Plano, TX (US)

**OTHER PUBLICATIONS**

(73) Assignee: **Samsung Electronics Co., Ltd.**, Suwon-Si (KR)

Srikanteswara et al., Design and implementation of a completely reconfigurable soft radio, IEEE, Sep. 2000 pp. 7-11.\*  
Forsberg et al., Distributing mobility agents hierarchically under frequent location updates, IEEE, Nov. 1999 pp. 159-168.\*  
Mihaljevic et al., On a framework for employment of cryptographic components in software defined radio, IEEE, Oct. 2002 pp. 835-839 vol. 2.\*  
Lange, Danny B. "Mobile objects and mobile agents: the future of distributed computing?" ECOOP'98—Object-Oriented Programming, Springer Berlin Heidelberg, 1998, pp. 1-12.\*  
Lorenzo Bettini et al., Software update via mobile agent based programming, Proceeding SAC '02 Proceedings of the 2002 ACM symposium on Applied computing, pp. 32-36.\*  
Angin, Oguz, et al. "The Mobiware toolkit: Programmable support for adaptive mobile networking." Personal Communications, IEEE 5.4 (1998), pp. 32-43.\*

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 2222 days.

(21) Appl. No.: **10/600,223**

(22) Filed: **Jun. 20, 2003**

(65) **Prior Publication Data**

US 2004/0261072 A1 Dec. 23, 2004

(51) **Int. Cl.**  
**G06F 9/44** (2006.01)

(52) **U.S. Cl.**  
USPC ..... **717/168; 717/170; 717/172; 717/175**

(58) **Field of Classification Search**  
USPC ..... **717/168-178; 455/418-420**  
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

6,279,153 B1\* 8/2001 Bi et al. .... 717/171  
6,640,334 B1\* 10/2003 Rasmussen ..... 717/171  
6,918,108 B2\* 7/2005 Rajaram ..... 717/126  
7,117,494 B2\* 10/2006 Rajaram ..... 717/174  
7,231,531 B2\* 6/2007 Cupps et al. .... 713/322  
2003/0023964 A1\* 1/2003 Rajaram et al. .... 717/172  
2003/0154471 A1\* 8/2003 Teachman et al. .... 717/171  
2003/0182414 A1\* 9/2003 O'Neill ..... 709/223  
2004/0068721 A1\* 4/2004 O'Neill et al. .... 717/168  
2004/0098715 A1\* 5/2004 Aghera et al. .... 717/173  
2005/0120346 A1\* 6/2005 Sprigg ..... 717/176  
2005/0204353 A1\* 9/2005 Ji ..... 717/168  
2005/0215248 A1\* 9/2005 Brookshire ..... 455/426.1

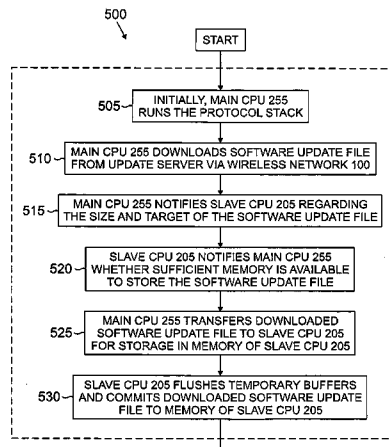
\* cited by examiner

*Primary Examiner* — Wei Zhen  
*Assistant Examiner* — Satish Rampuria

(57) **ABSTRACT**

A wireless communication device for accessing a wireless network and downloading a software upgrade file. The wireless communication device comprises: i) a CPU for controlling wireless communications with the wireless network; ii) a first memory associated with the first CPU; iii) a CPU for executing at least one end-user application on the wireless communication device; and iv) a second memory associated with the second CPU. The first CPU downloads the software upgrade file from the wireless network and stores the downloaded software upgrade file in the second memory for subsequent execution. The first CPU and the second CPU share resources in order to carry out software upgrades for either or both CPUs.

**24 Claims, 4 Drawing Sheets**



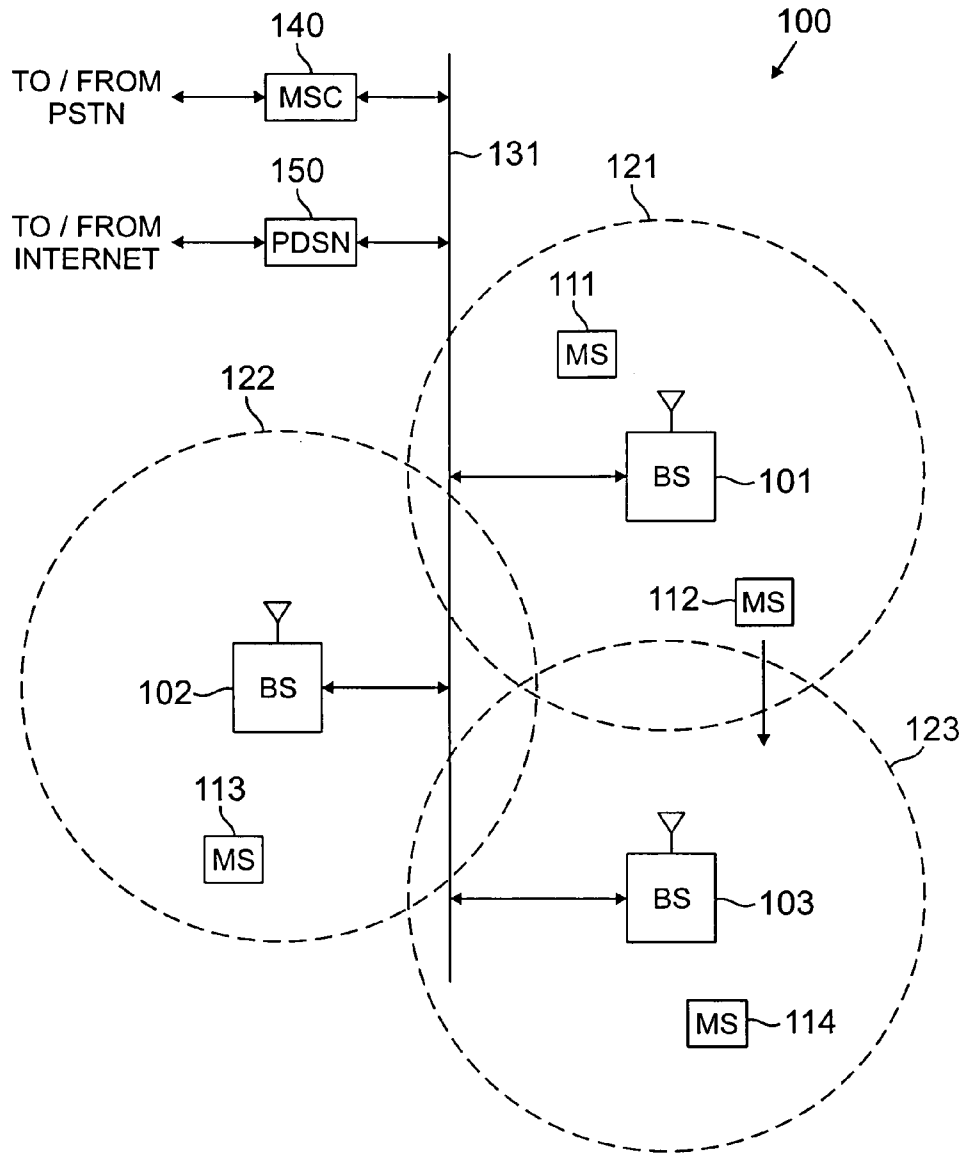


FIG. 1

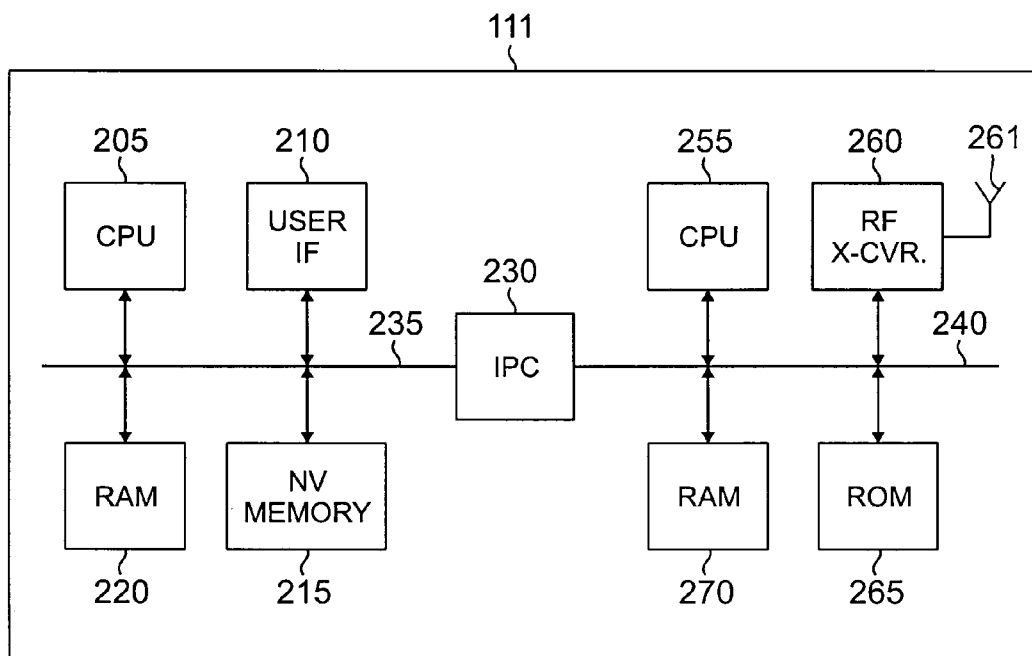


FIG. 2

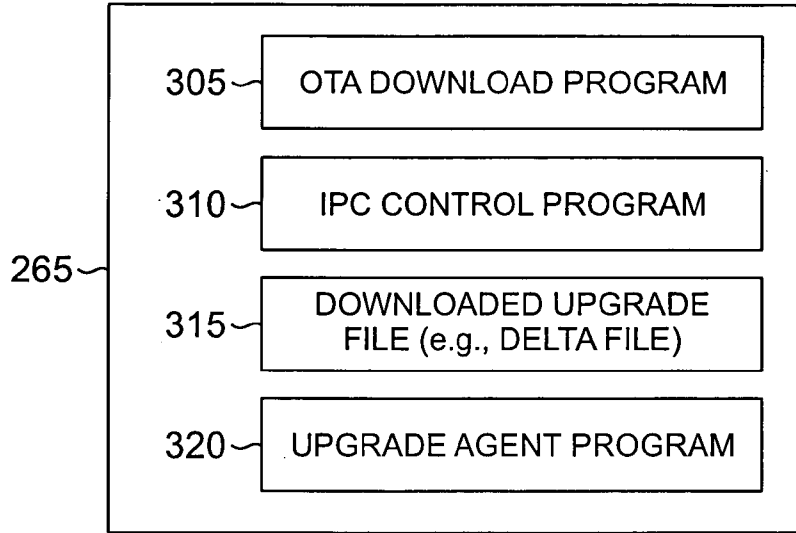


FIG. 3

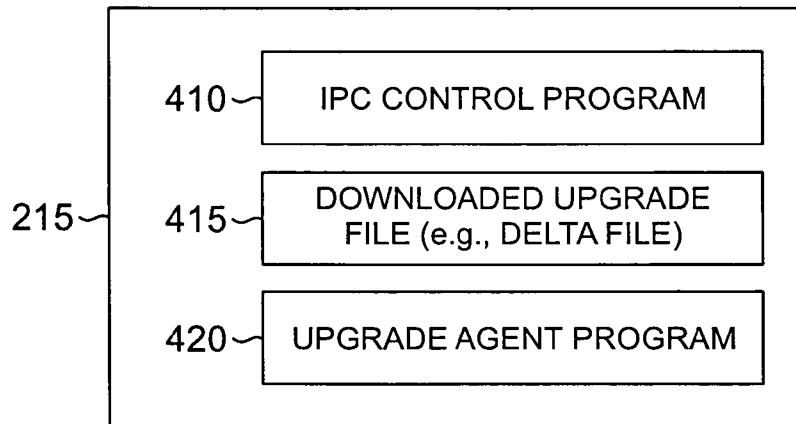


FIG. 4

# 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.