## Exhibit 1

## (12) United States Patent

Preston et al.

US 6,629,033 B2 (10) Patent No.:

Sep. 30, 2003 (45) Date of Patent:

#### (54) OPEN COMMUNICATION SYSTEM FOR REAL-TIME MULTIPROCESSOR **APPLICATIONS**

(75) Inventors: Dan Alan Preston, Bainbridge Island,

WA (US); Robert Pierce Lutter,

Tacoma, WA (US)

Assignee: Medius, Inc., Seattle, WA (US)

Subject to any disclaimer, the term of this Notice:

patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

Appl. No.: 09/841,753

(22)Filed: Apr. 24, 2001

(65)**Prior Publication Data** 

US 2002/0156564 A1 Oct. 24, 2002

(51) Int. Cl.<sup>7</sup> ...... G06F 7/00

**U.S. Cl.** ...... 701/70; 701/33; 701/36;

Field of Search ...... 701/70, 33, 36, 701/45, 41; 340/425.5; 307/9.1, 10.1, 10.2;

#### (56)References Cited

#### U.S. PATENT DOCUMENTS

6,161,071 A \* 12/2000 Shuman et al. ...... 701/48 6,243,450 B1 6/2001 Jansen et al.

#### FOREIGN PATENT DOCUMENTS

WO	WO96/24229	8/1996
WO	WO99/08436	2/1999
WO	WO99/57662	11/1999
WO	WO99/65183	12/1999
WO	WO01/30061	4/2001
WO	WO01/58110	8/2001

#### OTHER PUBLICATIONS

Product description of Raytheon RT Secure, "Embedded Hard Real-Time Secure Operating System", Copyright 2000, pp. 1-2.

Product description of Raytheon RT Secure, Copyright 2001, pp. 1-2.

Product description of Raytheon RT Secure, "Development Environment", Copyright 2001, pp. 1–2.

Product description of Raytheon Electronic Systems (ES), Copyright 2002, pp. 1-2.

H. Chung, L. Ojeda, and J. Borenstein, "Sensor Fusion for Mobile Robot Dead-reckoning with a Precision-calibrated Fiber Optic Gyroscope", 2001 IEEE International Conference on Robotics and Automation, Seoul, Korea, May 21-26, pp. 1-6.

A. Das, R. Fierro, V. Kumar, J. Ostrowski, J. Spletzer, and C. Taylor, "A Framework for Vision Based Formation Control", IEEE Transactions on Robotics and Automation, vol. XX, No. Y, 2001, pp. 1-13.

J. Takezaki, N. Ueki, T. Minowa, H. Kondoh, "Support System for Safe Driving—A Step Toward ITS Autonomous Driving-", Hitachi Review, vol. 49, No. 3, 2000, pp. 1-8.

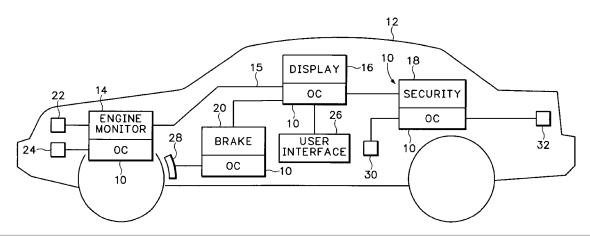
(List continued on next page.)

Primary Examiner—Yonel Beaulieu (74) Attorney, Agent, or Firm-Marger Johnson & McCollom, PC

#### (57)**ABSTRACT**

A communication system for a mobile vehicle, home, or office environment includes multiple processors. The multiple processors each run an Open Communication system that controls how data is transferred between processors based on data content as opposed to the links that connect the processors together. The open communication system enables data or messages to be effectively transferred and processed for real-time applications or other server based applications that may be running on the multiple processors in a secure environment regardless of processors, locations, or data links.

#### 30 Claims, 9 Drawing Sheets





#### US 6,629,033 B2

Page 2

#### OTHER PUBLICATIONS

S.G. Goodridge, "Multimedia Sensor Fusion for Intelligent Camera Control and Human-Computer Interaction", Dissertation submitted to the Graduate Faculty of North Carolina State University in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Electrical Engineering, Raleigh, NC, 1997, pp. 1–5.

Engineering, Raleigh, NC, 1997, pp. 1–5.

M. Chantler, G. Russel, and R. Dunbar, "Probabilistic Sensor Fusion for Reliable Workspace Sensing", pp. 1–14.

ISIS Project: Sensor Fusion, Linkoping University Division of Automatic Control and Communication Systems in cooperation with SAAB (Dynamics and Aircraft), 18 pp.

Hitachi Automated Highway System (AHS), Automotive Products, Hitachi, Ltd., Copyright 1994–2002, 8 pages.

Vehicle Dynamics Lab, University of California, Berkeley, funded by BMW, current members: D. Caveney and B. Feldman, "Adaptive Cruise Control", 17 pages.

Counterair: The Cutting Edge, Ch. 2 "The Evolutionary Trajectory The Fighter Pilot-Here to Stay?" AF2025 v3c8-2, Dec. 1996, pp. 1-7.

Counterair: The Cutting Edge, Ch. 4 "The Virtual Trajectory Air Superiority without an "Air" Force?" AF2025 v3c8-4, Dec. 1996, pp. 1–12.

TNO FEL Annual Review 1998: Quality works, 16 pages. Boeing News Release, "Boeing Demonstrates JSF Avionics Multi-Sensor Fusion", Seattle, WA, May 9, 2000, pp. 1–2. Boeing Statement, "Chairman and CEO Phil Condit on the JSF Decision", Washington, D.C., Oct. 26, 2001, pp. 1–2. Ada 95 Transition Support—Lessons Learned, Sections 3, 4, and 5, CACI, Inc. –Federal, Nov. 15, 1996, 14 pages.

Joint Strike Fighter Terrain Database, ets-news.com "Simulator Solutions" 2002, 3 pages.

MSRC Redacted Proposal, 3.0 Architecture Development, pages 1–43.

Powerpoint Presentation by Robert Allen—Boeing Phantom Works entitled "Real-Time Embedded Avionics System Security and COTS Operating Systems", Open Group Real-Time Forum, Jul. 18, 2001, 16 pages.

Green Hills Software, Inc., "The AdaMULTI 2000 Integrated Development Environment", Copyright 2002, 7 pages.

Luttge, Karsten; "E-Charging API: Outsource Charging to a Payment Service Provider" IEEE; 2001 (pp. 216–222).

\* cited by examiner

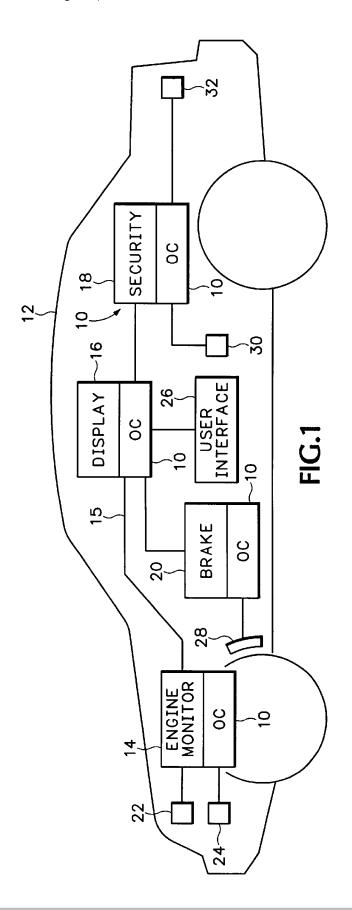


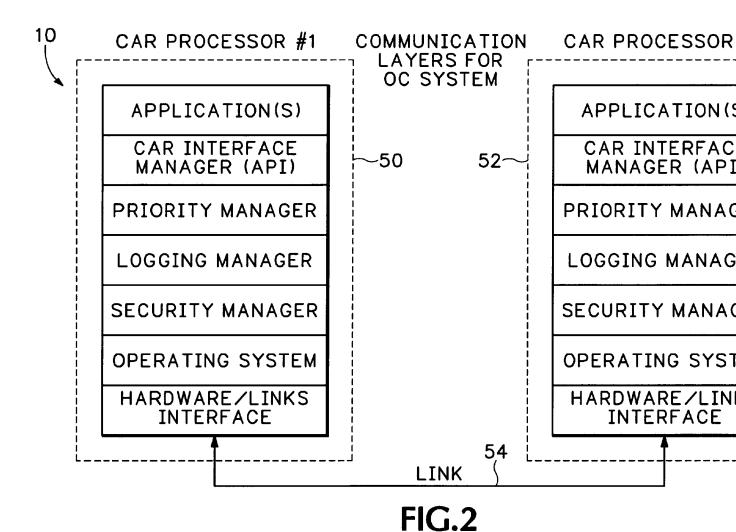
U.S. Patent

Sep. 30, 2003

Sheet 1 of 9

US 6,629,033 B2





DOCKET

# DOCKET

## 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.

