

US007549153B2

(12) United States Patent

Butterworth et al.

(54) APPARATUS AND METHOD FOR CONTENT AND CONTEXT PROCESSING OF WEB SERVICE TRAFFIC

(75) Inventors: Paul E. Butterworth, Alamo, CA (US);
Frederick H. Carter, Fremont, CA
(US); Joseph R. Cortopassi, Pleasanton,
CA (US); Michael S. Schilling, San
Rafael, CA (US); Charles E. Thurston,
Kensington, CA (US); Mark T. Wallace,

San Rafael, CA (US)

(73) Assignee: **Amberpoint, Inc.**, Oakland, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 483 days.

(21) Appl. No.: 10/201,617

(22) Filed: Jul. 22, 2002

(65) Prior Publication Data

US 2004/0133656 A1 Jul. 8, 2004

(51) Int. Cl.

G06F 3/00 (2006.01)

G06F 17/30 (2006.01)

G06F 15/16 (2006.01)

G06Q 40/00 (2006.01)

See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

5,367,635	Α	*	11/1994	Bauer et al	709/221
5,404,523	Α	*	4/1995	DellaFera et al	718/101
5,655,081	Α	*	8/1997	Bonnell et al	709/202
5.710.918	Α	*	1/1998	Lagarde et al	. 707/10

(10) Patent No.: US 7,549,153 B2 (45) Date of Patent: Jun. 16, 2009

5,724,516	A *	3/1998	Temoshenko 709/202
5,761,673	A *	6/1998	Bookman et al 719/311
5,850,517	A	12/1998	Verkler et al.
6,085,240	A	7/2000	Suzuki et al.
6,317,786	B1*	11/2001	Yamane et al 709/224
6,330,586	B1	12/2001	Yates et al.
6,549,952	B1 *	4/2003	Plassmann et al 719/311
2002/0087374	A1*	7/2002	Boubez et al 705/7
2003/0004912	A1*	1/2003	Pant et al 706/47

(Continued)

OTHER PUBLICATIONS

M. Jones, "Interposition Agents: Transparently Interposing User Code at the System Interface", ACM, 1993, pp. 80-93.*

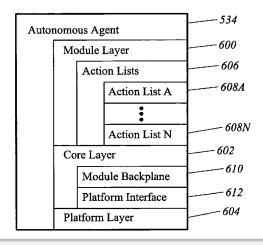
(Continued)

Primary Examiner—Meng-Ai An
Assistant Examiner—Charles E Anya
(74) Attorney, Agent, or Firm—Cooley Godward Kronish
LLP

(57) ABSTRACT

A method of supplementing the operations performed by a web service includes operating an autonomous software agent. The autonomous software agent receives a request directed to a web service and identifies a web service input operation associated with the request. The web service input operation is associated with a set of input actions. The input actions are executed prior to directing the request to web service. The autonomous software agent may also receive a response from the web service. A web service output operation associated with the response is identified. The web service output operations. The output actions are executed prior to directing the response to a client.

11 Claims, 13 Drawing Sheets





US 7,549,153 B2

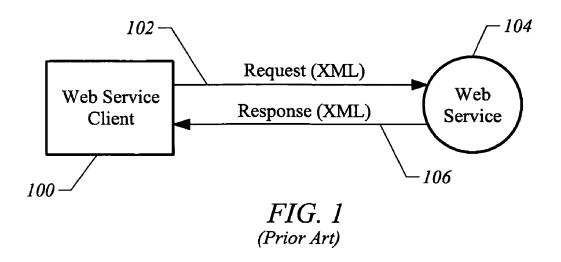
Page 2

2005/0193097 A1* 9/2005 Guthrie et al. 709/219 U.S. PATENT DOCUMENTS OTHER PUBLICATIONS $2003/0061404 \ A1* \ \ 3/2003 \ Atwal \ et \ al. \ \ 709/328$ H. Nwana, et al, "ZEUS: A Toolkit and Approach for Building Dis-2003/0069834 A1* 4/2003 Cutler 705/37

tributed Multi-Agent Systems", ACM, 1999, pp. 360-361.* 2003/0233477 A1* 12/2003 Ballinger et al. 709/246







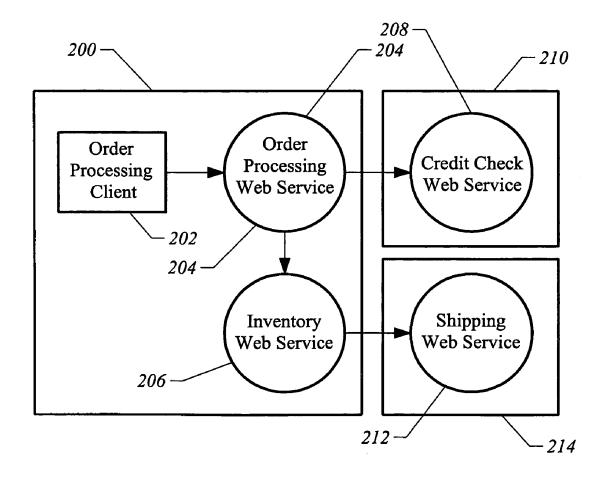


FIG. 2 (Prior Art)



Jun. 16, 2009

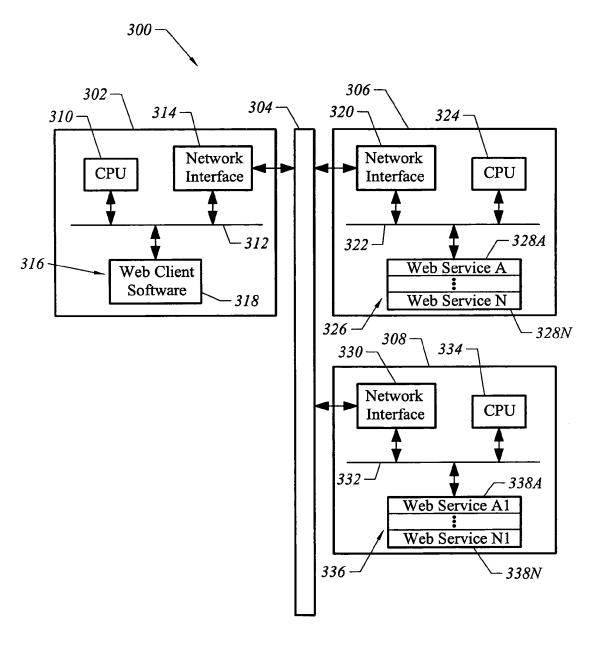
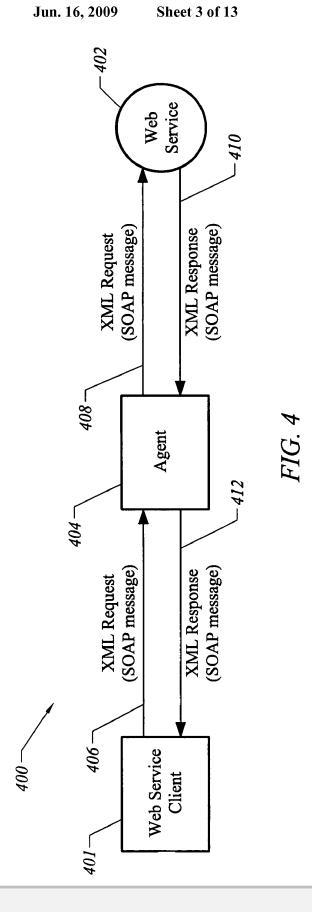


FIG. 3 (Prior Art)



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.

