



US007324635B2

(12) **United States Patent**
Wood et al.

(10) **Patent No.:** **US 7,324,635 B2**
(45) **Date of Patent:** **Jan. 29, 2008**

(54) **BRANCH CALLING AND CALLER ID BASED CALL ROUTING TELEPHONE FEATURES**

FOREIGN PATENT DOCUMENTS

EP 0 738 093 10/1996

(Continued)

(75) Inventors: **Samuel F. Wood**, Los Altos, CA (US);
Jerry A. Klein, Los Altos, CA (US);
Margaret Susan Asprey, Los Altos, CA (US)

OTHER PUBLICATIONS

ADC Telecommunications; SS7 New Net SS7 Tutorial; © Copyright 1999.

(73) Assignee: **Telemaze LLC**, Los Altos, CA (US)

(Continued)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 722 days.

Primary Examiner—Creighton Smith
(74) *Attorney, Agent, or Firm*—Patent Law Group LLP; Brian D. Ogonowsky

(21) Appl. No.: **10/426,279**

(57) **ABSTRACT**

(22) Filed: **Apr. 30, 2003**

A caller ID based call routing feature is described for blocked and non-blocked caller ID's. A processing system in the public switched telephone network (PSTN) receives first identifying information for identify the source of a telephone call and associates additional information stored in a memory with the first identifying information. The additional information may be information about the calling party initially downloaded to the memory by a subscriber. Once retrieved from the memory by the processing system, the additional information may then be transmitted to the subscriber via the Internet for display on a monitor or to the subscriber's telephone for display on a telephone display. Another feature described is a branch calling feature where the subscriber may program a processing system within the PSTN to forward an incoming call to two or more end units (e.g., telephones) simultaneously. If the call at an end unit is answered, answer supervision signaling is transmitted back to the processing system which then terminates all other calls. The processing system then connects the calling party to the subscriber. The branch calling may be made for any combination of local, long distance, and cellular telephone numbers.

(65) **Prior Publication Data**

US 2003/0194078 A1 Oct. 16, 2003

Related U.S. Application Data

(63) Continuation-in-part of application No. 09/565,565, filed on May 4, 2000, now Pat. No. 6,574,328.

(51) **Int. Cl.**
H04M 1/56 (2006.01)

(52) **U.S. Cl.** **379/142.02**; 379/142.06

(58) **Field of Classification Search** 379/88.2, 379/88.26, 127.01, 142.02, 142.03, 142.06, 379/201.11, 207.15, 210.02, 210.03, 211.02
See application file for complete search history.

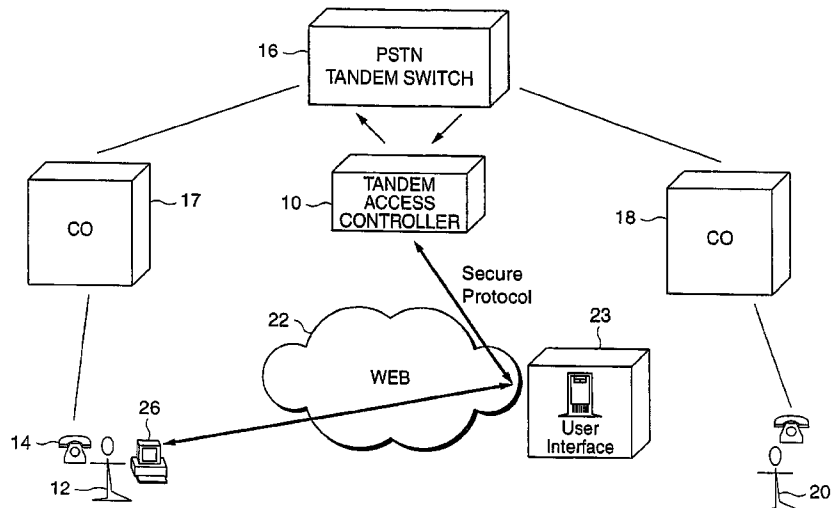
(56) **References Cited**

U.S. PATENT DOCUMENTS

4,100,377 A 7/1978 Flanagan

(Continued)

31 Claims, 11 Drawing Sheets



U.S. PATENT DOCUMENTS					
			5,423,003	A	6/1995 Berteau
4,238,851	A	12/1980 Takahashi et al.	5,426,636	A	6/1995 Hiller et al.
4,569,041	A	2/1986 Takeuchi et al.	5,428,607	A	6/1995 Hiller et al.
4,608,685	A	8/1986 Jain et al.	5,428,616	A	6/1995 Field et al.
4,630,260	A	12/1986 Toy et al.	5,430,719	A	7/1995 Weisser, Jr.
4,630,262	A	12/1986 Callens et al.	5,434,913	A	7/1995 Tung et al.
4,661,947	A	4/1987 Lea et al.	5,436,898	A	7/1995 Bowen et al.
4,674,082	A	6/1987 Flanagan et al.	5,438,614	A	8/1995 Rozman et al.
4,679,190	A	7/1987 Dias et al.	5,444,709	A	8/1995 Riddle
4,679,191	A	7/1987 Nelson et al.	5,452,289	A	9/1995 Sharma et al.
4,707,831	A	11/1987 Weir et al.	5,453,986	A	9/1995 Davis et al.
4,715,026	A	12/1987 Eberspaecher	5,457,684	A	10/1995 Bharucha et al.
4,723,238	A	2/1988 Isreal et al.	5,471,470	A	11/1995 Sharma et al.
4,757,497	A	7/1988 Beierle et al.	5,479,411	A	12/1995 Klein
4,761,779	A	8/1988 Nara et al.	5,485,457	A	1/1996 Aramaki
4,771,425	A	9/1988 Baran et al.	5,521,914	A	5/1996 Mavraganis et al.
4,815,071	A	3/1989 Shimizu	5,526,353	A	6/1996 Henley et al.
4,819,228	A	4/1989 Baran et al.	5,537,403	A	7/1996 Cloonan et al.
4,862,451	A	8/1989 Closs et al.	5,541,917	A	7/1996 Farris
4,866,704	A	9/1989 Bergman	5,544,161	A	8/1996 Bigham et al.
4,872,159	A	10/1989 Hemmady et al.	5,544,163	A	8/1996 Madonna
4,872,160	A	10/1989 Hemmady et al.	5,544,164	A	8/1996 Baran
4,885,739	A	12/1989 Read et al.	5,544,168	A	8/1996 Jeffrey et al.
4,903,261	A	2/1990 Baran et al.	5,553,063	A	9/1996 Dickson
4,926,416	A	5/1990 Weik	5,566,236	A	10/1996 McLampy et al. 379/201
4,932,022	A	6/1990 Keeney et al.	5,568,475	A	10/1996 Doshi et al.
4,933,931	A	6/1990 Kokubo	5,570,355	A	10/1996 Dail et al.
4,953,158	A	8/1990 Schreur	5,572,583	A	11/1996 Wheeler, Jr. et al.
4,958,341	A	9/1990 Hemmady et al.	5,577,038	A	11/1996 Miyahara
4,962,497	A	10/1990 Ferenc et al.	5,577,041	A	11/1996 Sharma et al.
4,969,184	A	11/1990 Gordon et al.	5,579,308	A	11/1996 Humpleman
4,970,721	A	11/1990 Aczel et al.	5,590,181	A	12/1996 Hogan et al.
4,975,695	A	12/1990 Almond et al.	5,592,477	A	1/1997 Farris et al.
4,996,685	A	2/1991 Farese et al.	5,592,538	A	1/1997 Kosowsky et al.
5,008,929	A	4/1991 Olsen et al.	5,594,732	A	1/1997 Bell et al.
5,014,266	A	5/1991 Bales et al.	5,600,643	A	2/1997 Robrock, II
5,018,136	A	5/1991 Gollub	5,600,649	A	2/1997 Sharma et al.
5,020,058	A	5/1991 Holden et al.	5,602,991	A	2/1997 Berteau
5,022,071	A	6/1991 Mozer et al.	5,604,737	A	2/1997 Iwami et al.
5,048,081	A	9/1991 Gavaras et al.	5,608,786	A	3/1997 Gordon
5,051,983	A	9/1991 Kammerl	5,613,069	A	3/1997 Walker
5,093,827	A	3/1992 Franklin et al.	H1641	H	4/1997 Sharman
5,115,431	A	5/1992 Williams et al.	5,621,727	A	4/1997 Vaudreuil
5,150,357	A	9/1992 Hopner et al.	5,625,677	A	4/1997 Feiertag et al.
5,157,662	A	10/1992 Tadamura et al.	5,631,897	A	5/1997 Pacheco et al.
5,197,067	A	3/1993 Fujimoto et al.	5,640,446	A	6/1997 Everett et al.
5,208,806	A	5/1993 Hasegawa	5,650,999	A	7/1997 Dickson
5,218,602	A	6/1993 Grant et al.	5,654,957	A	8/1997 Koyama
5,231,633	A	7/1993 Hluchyj et al.	5,659,541	A	8/1997 Chan
5,241,588	A	8/1993 Babson, III et al.	5,659,542	A	8/1997 Bell et al.
5,247,571	A	9/1993 Kay et al.	5,680,437	A	10/1997 Segal
5,268,900	A	12/1993 Hluchyj et al.	5,684,799	A	11/1997 Bigham et al.
5,274,635	A	12/1993 Rahman et al.	5,689,553	A	11/1997 Ahuja et al.
5,291,489	A	3/1994 Morgan et al.	5,692,126	A	11/1997 Templeton et al.
5,301,189	A	4/1994 Schmidt et al.	5,701,301	A	12/1997 Weisser, Jr.
5,305,308	A	4/1994 English et al.	5,706,286	A	1/1998 Reiman et al.
5,327,428	A	7/1994 Van As et al.	5,710,769	A	1/1998 Anderson et al.
5,341,374	A	8/1994 Lewen et al.	5,712,903	A	1/1998 Bartholomew et al.
5,351,276	A	9/1994 Doll, Jr. et al.	5,712,908	A	1/1998 Brinkman et al.
5,351,286	A	9/1994 Nici	5,724,412	A	3/1998 Srinivasan
5,353,283	A	10/1994 Tsuchiya	5,729,544	A	3/1998 Lev et al.
5,359,598	A	10/1994 Steagall et al.	5,732,078	A	3/1998 Arango
5,365,521	A	11/1994 Ohnishi et al.	5,737,320	A	4/1998 Madonna
5,379,293	A	1/1995 Kanno et al.	5,737,331	A	4/1998 Hoppal et al.
5,381,405	A	1/1995 Daugherty et al.	5,737,333	A	4/1998 Civanlar et al.
5,381,466	A	1/1995 Shibayama et al.	5,740,164	A	4/1998 Liron
5,383,183	A	1/1995 Yoshida	5,740,231	A	4/1998 Cohn et al.
5,384,840	A	1/1995 Blatchford et al.	5,742,596	A	4/1998 Baratz et al.
5,390,184	A	2/1995 Morris	5,751,706	A	5/1998 Land et al.
5,396,491	A	3/1995 Newman	5,751,968	A	5/1998 Cohen
			5,754,641	A	5/1998 Voit et al.

5,764,750 A	6/1998	Chau et al.	2005/0207557 A1*	9/2005	Dolan et al.	379/210.02
5,764,756 A	6/1998	Onweller				
5,777,991 A	7/1998	Adachi et al.				
5,790,538 A	8/1998	Sugar	EP	0 789 470		8/1997
5,793,762 A	8/1998	Penners et al.	EP	0 794 650		9/1997
5,793,771 A	8/1998	Darland et al.	EP	0 797 373		9/1997
5,799,072 A	8/1998	Vulcan et al.	EP	0 824 298		2/1998
5,799,154 A	8/1998	Kuriyan	EP	0 829 995		3/1998
5,805,587 A	9/1998	Norris et al.	EP	0 841 831		5/1998
5,805,588 A	9/1998	Petersen	EP	0 847 176		6/1998
5,809,022 A	9/1998	Byers et al.	EP	0 898 431		2/1999
5,809,128 A	9/1998	McMullin	JP	10-51453		2/1998
5,812,534 A	9/1998	Davis et al.	JP	10-164135		6/1998
5,815,505 A	9/1998	Mills	JP	10-164257		6/1998
5,818,912 A	10/1998	Hammond	WO	WO 96/08935		3/1996
5,825,771 A	10/1998	Cohen et al.	WO	WO 96/15598		5/1996
5,828,666 A	10/1998	Focsaneanu et al.	WO	WO 97/14234 A2		4/1997
5,838,665 A	11/1998	Kahn et al.	WO	WO 97/14238		4/1997
5,867,494 A	2/1999	Krishnaswamy et al.	WO	WO 97/16007		5/1997
5,867,495 A	2/1999	Elliott et al.	WO	WO 97/22216		6/1997
5,878,113 A *	3/1999	Bhusri 379/13	WO	WO 97/23078		6/1997
5,881,060 A	3/1999	Morrow et al.	WO	WO 97/27692		7/1997
5,881,131 A	3/1999	Farris et al.	WO	WO 97/28628		8/1997
5,889,774 A	3/1999	Mirashrafi et al.	WO	WO 97/29581		8/1997
5,915,008 A	6/1999	Dulman	WO	WO 97/31492		8/1997
5,922,047 A	7/1999	Newlin et al.	WO	WO 97/33412		9/1997
5,933,490 A	8/1999	White et al.	WO	WO 97/38511 A2		10/1997
5,946,386 A	8/1999	Rogers et al.	WO	WO 97/38551		10/1997
5,946,684 A	8/1999	Lund	WO	WO 97/39560		10/1997
5,953,392 A	9/1999	Rhie et al. 379/88.13	WO	WO 97/46073 A2		12/1997
5,954,799 A	9/1999	Goheen et al.	WO	WO 97/47118		12/1997
5,958,016 A	9/1999	Chang et al. 709/229	WO	WO 97/50217		12/1997
5,963,551 A	10/1999	Minko	WO	WO 97/50271		12/1997
5,974,449 A	10/1999	Chang et al. 709/206	WO	WO 97/50277 A2		12/1997
5,982,866 A *	11/1999	Kowalski 379/127.06	WO	WO 98/04989		2/1998
5,991,291 A	11/1999	Asai et al.	WO	WO 98/11704		3/1998
5,999,525 A	12/1999	Krishnaswamy et al.	WO	WO 98/12860		3/1998
6,005,870 A	12/1999	Leung et al.	WO	WO 98/13974		4/1998
6,009,469 A	12/1999	Mattaway et al.	WO	WO 98/18238		4/1998
6,012,088 A	1/2000	Li et al. 709/219	WO	WO 98/18289		4/1998
6,014,437 A	1/2000	Acker et al. 379/219	WO	WO 98/19425		5/1998
6,026,083 A	2/2000	Albrow et al.	WO	WO 98/19445		5/1998
6,028,917 A	2/2000	Creamer et al. 379/100.01	WO	WO 98/20701		5/1998
6,031,836 A	2/2000	Haserodt 370/389	WO	WO 98/23067		5/1998
6,069,890 A	5/2000	White et al.	WO	WO 98/23080		5/1998
6,078,581 A	6/2000	Shtivelman et al. 370/352	WO	WO 98/26543		6/1998
6,094,478 A	7/2000	Shepherd et al.	WO	WO 0 851 653		7/1998
6,104,800 A	8/2000	Benson 379/215	WO	WO 0 853 411 A2		7/1998
6,134,235 A	10/2000	Goldman et al.	WO	WO 98/28885		7/1998
6,161,128 A	12/2000	Smyk	WO	WO 98/30007		7/1998
6,259,692 B1	7/2001	Shtivelman et al. 370/355	WO	WO 98/30008		7/1998
6,278,707 B1	8/2001	MacMillan et al.	WO	WO 98/34391		8/1998
6,324,183 B1	11/2001	Miller et al.	WO	WO 98/34399		8/1998
6,327,258 B1	12/2001	Deschaine et al.	WO	WO 98/36543		8/1998
6,339,594 B1	1/2002	Civanlar et al.	WO	WO 98/37665		8/1998
6,359,892 B1 *	3/2002	Szlam 370/401	WO	WO 98/37688 A2		8/1998
6,459,780 B1 *	10/2002	Wurster et al. 379/142.02	WO	WO 98/39897		9/1998
6,614,781 B1	9/2003	Elliott et al.	WO	WO 98/42104		9/1998
6,697,461 B1 *	2/2004	Middleswarth et al. .. 379/88.24	WO	WO 98/42107		9/1998
6,788,775 B1 *	9/2004	Simpson 379/207.13	WO	WO 98/42146		9/1998
6,956,941 B1 *	10/2005	Duncan et al. 379/265.01	WO	WO 98/47256 A2		10/1998
2003/0026403 A1 *	2/2003	Clapper 379/142.06	WO	WO 98/51063		11/1998
2003/0040325 A1 *	2/2003	Clark 455/461	WO	WO 01/84859 A2		11/2001
2003/0095650 A1 *	5/2003	Mize 379/142.17				
2003/0133553 A1 *	7/2003	Khakoo et al. 379/142.01				
2003/0156693 A1 *	8/2003	Goldman 379/142.01				
2004/0029568 A1 *	2/2004	DeLuca et al. 455/412.1				
2005/0041526 A1 *	2/2005	Esmersoy et al. 367/27				
2005/0141500 A1 *	6/2005	Bhandari et al. 370/389				
2005/0169445 A1 *	8/2005	Harris 379/88.19				

FOREIGN PATENT DOCUMENTS

OTHER PUBLICATIONS

Mary Carmichael, "Calls That Follow you Anywhere", Newsweek, Apr. 28, 2003, p. 43.
European Search Report, 3 pages.

* cited by examiner

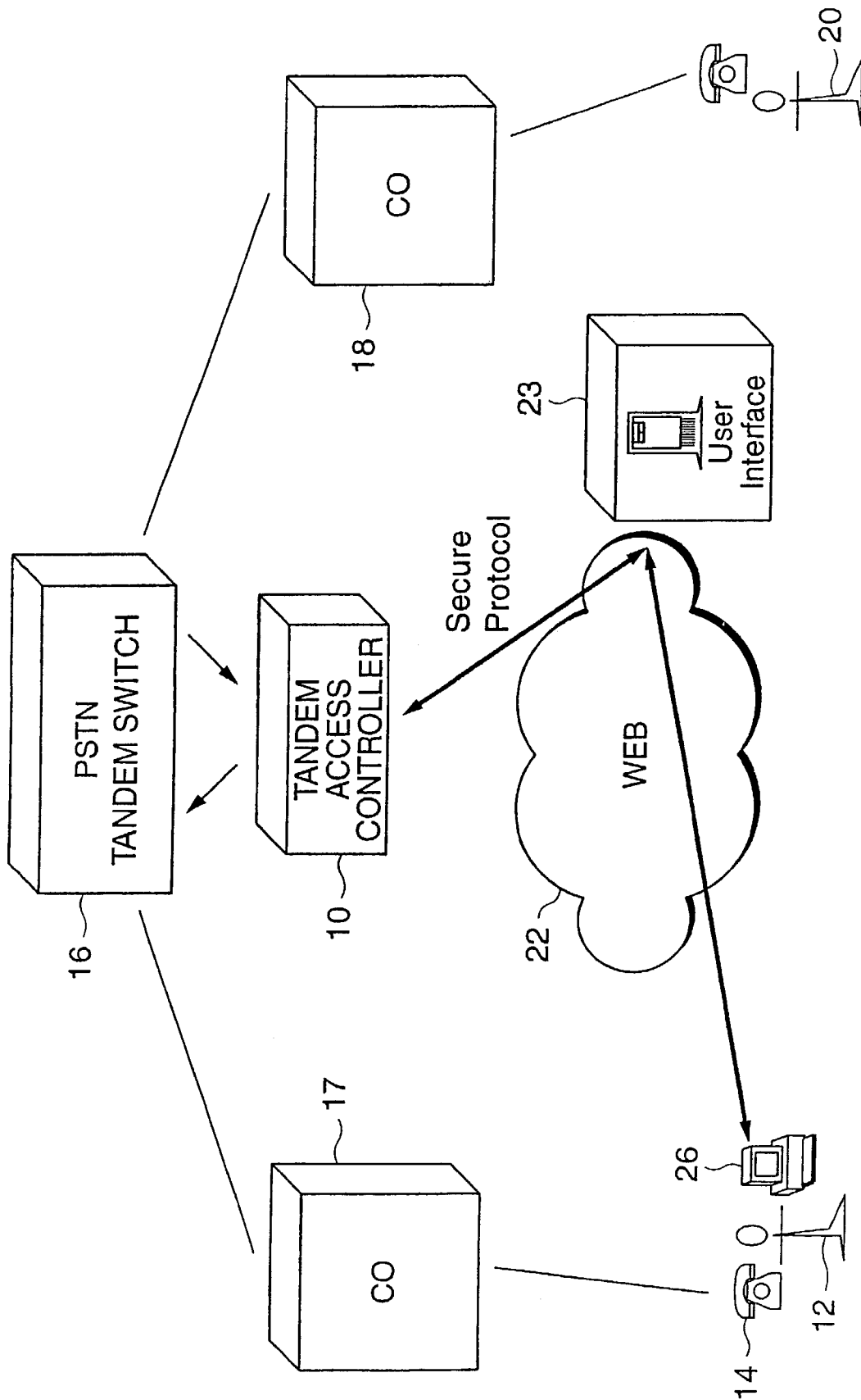


FIG. 1

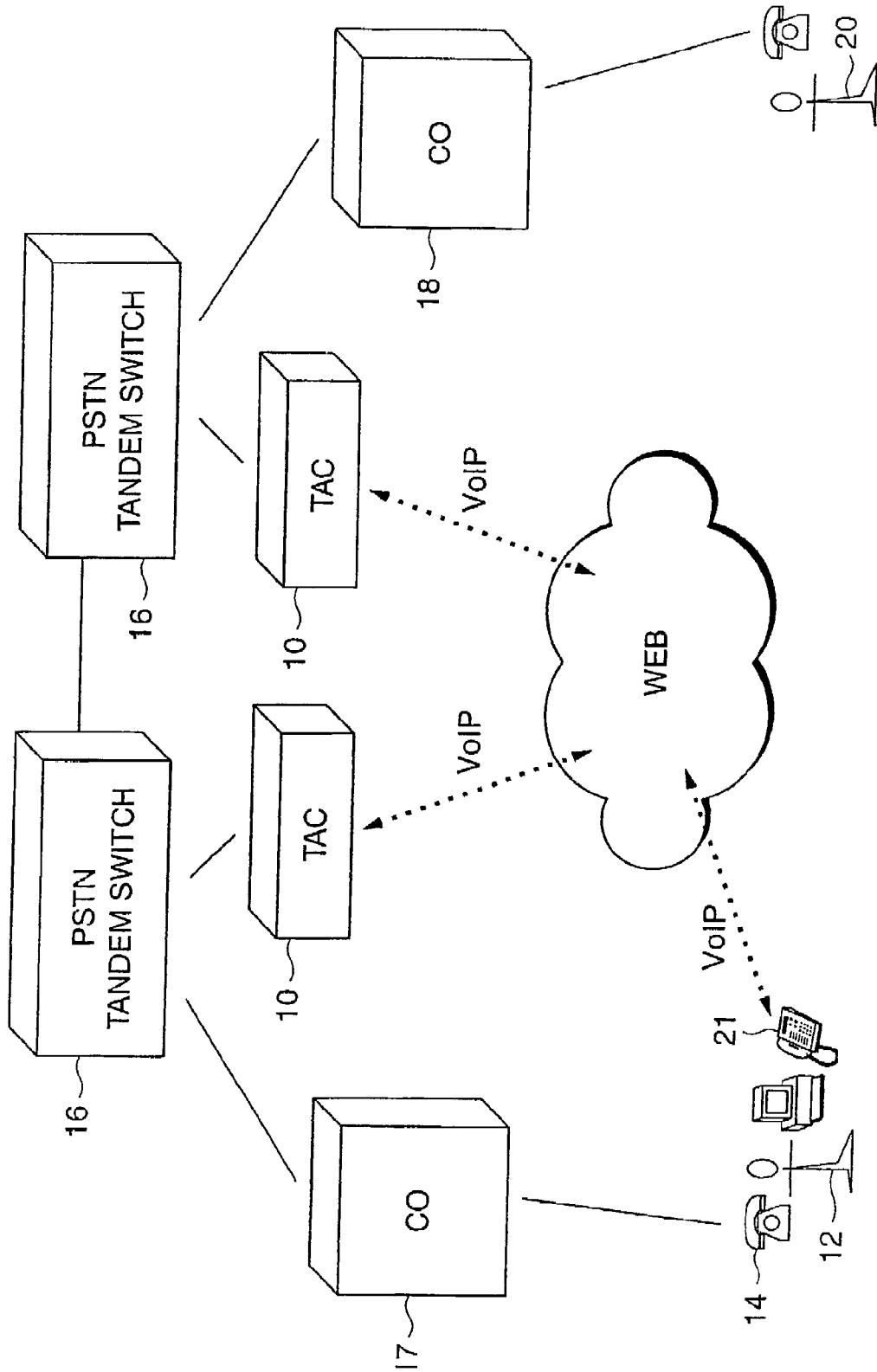


FIG. 2

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.