

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

(10) **Patent No.:** US 6,421,733 B1  
(45) **Date of Patent:** \*Jul. 16, 2002

(54) **SYSTEM FOR DYNAMICALLY  
TRANSCODING DATA TRANSMITTED  
BETWEEN COMPUTERS**

(75) Inventors: **Michael Man-Hak Tso**, Hillsboro;  
**Thomas G. Willis**, Portland; **John W.  
Richardson**, Portland; **Robert Conrad  
Knauerhase**, Portland; **Damien  
Macielinski**, Portland, all of OR (US)

(73) Assignee: **Intel Corporation**, Santa Clara, CA  
(US)

(\* ) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **08/925,276**

(22) Filed: **Sep. 8, 1997**

**Related U.S. Application Data**

(60) Provisional application No. 60/041,366, filed on Mar. 25, 1997.

(51) **Int. Cl.**7 ..... **G06F 15/16**

(52) **U.S. Cl.** ..... **709/246; 709/217; 358/402**

(58) **Field of Search** ..... 395/200.47, 200.48, 395/200.49, 200.36, 200.59, 200.43, 186, 800; 707/1, 2, 6, 9, 13; 380/3, 25; 364/514; 356/402; 705/26; 709/217, 231, 204, 210-219, 240-249, 1, 226, 202, 224; 713/201; 348/722; 379/201; 358/402

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

5,347,578 A \* 9/1994 Duxbury ..... 709/79  
5,373,375 A 12/1994 Weldy ..... 358/523

5,461,488 A	*	10/1995	Witek	358/402
5,483,658 A	*	1/1996	Grube et al.	395/800
5,517,612 A		5/1996	Dwin et al.	395/166
5,543,920 A	*	8/1996	Collins et al.	356/402
5,544,320 A		8/1996	Konrad	395/200.09
5,555,192 A	*	9/1996	Grube et al.	364/514
5,568,550 A	*	10/1996	Ur	380/3
5,608,800 A	*	3/1997	Hoffmann et al.	380/25
5,673,322 A		9/1997	Pepe et al.	380/49
5,684,969 A		11/1997	Ishida	395/342
5,694,334 A	*	12/1997	Donahue et al.	709/247
5,701,451 A		12/1997	Rogers et al.	395/600
5,706,434 A		1/1998	Kremen et al.	395/200.09
5,724,556 A		3/1998	Souder et al.	395/500
5,727,159 A		3/1998	Kikinis	395/200.76
5,742,905 A		4/1998	Pepe et al.	455/461
5,745,678 A	*	4/1998	Herzberg et al.	713/200
5,754,763 A	*	5/1998	Bereiter	713/201
5,764,235 A		6/1998	Hunt et al.	345/428
5,768,510 A		6/1998	Gish	395/200.33
5,805,735 A		9/1998	Chen et al.	382/239
5,826,025 A	*	10/1998	Gramlich	395/200.47

(List continued on next page.)

**OTHER PUBLICATIONS**

Safranek et al, Method for Matching Compresses Video to ATM Networks, IEEE 1995.\*

Assuncao et al, Congestion Control of Video Traffic with Transcoders, IEEE 1997.\*

(List continued on next page.)

*Primary Examiner*—Mark H. Rinehart

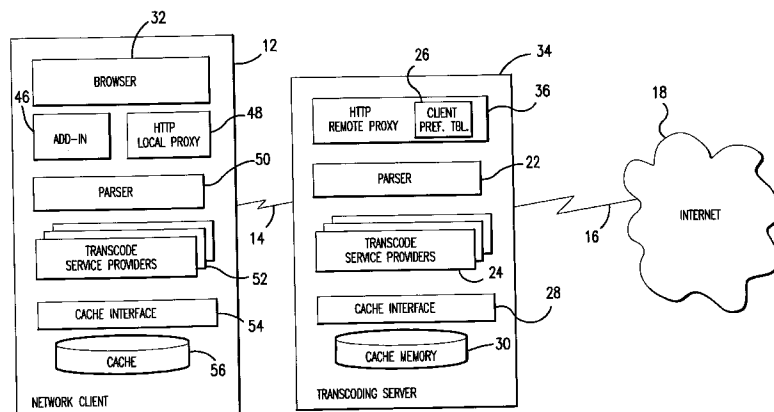
*Assistant Examiner*—Thong Vu

(74) *Attorney, Agent, or Firm*—Kenyon & Kenyon

(57) **ABSTRACT**

A system for dynamically transcoding data transmitted between computers is implemented in an apparatus for use in transmitting data between a network server and a network client over a communications link. The apparatus includes a parser coupled to a transcode service provider. The parser is configured to selectively invoke the transcode service provider in response to a predetermined selection criterion.

**4 Claims, 9 Drawing Sheets**



## U.S. PATENT DOCUMENTS

5,832,208	A	*	11/1998	Chen et al.	713/201
5,835,087	A	*	11/1998	Herz et al.	345/327
5,835,718	A	*	11/1998	Blewett	395/200.48
5,835,896	A	*	11/1998	Fisher et al.	705/37
5,838,916	A	*	11/1998	Domenikos et al.	395/200.49
5,848,413	A	*	12/1998	Wolff	707/10
5,850,433	A	*	12/1998	Rondeau	379/201
5,862,325	A	*	1/1999	Reed et al.	395/200.31
5,870,543	A	*	2/1999	Ronning	395/186
5,880,792	A	*	3/1999	Ward et al.	348/722
5,889,943	A	*	3/1999	Ji et al.	713/201
5,897,622	A	*	4/1999	Blinn et al.	705/26
5,909,683	A	*	6/1999	Miginiac et al.	707/13
5,918,013	A	*	6/1999	Mighdoll et al.	709/217
5,983,004	A	*	11/1999	Shaw et al.	709/247
5,996,022	A	*	11/1999	Krueger et al.	709/247
6,151,618	A	*	11/2000	Wahbe et al.	709/1
6,158,903	A	*	12/2000	Schaeffer et al.	709/204
6,161,137	A	*	12/2000	Ogdon et al.	709/224
6,185,625	B1	*	2/2001	Tso et al.	709/247

## OTHER PUBLICATIONS

PC Virus Alert, <http://byu.edu/csr/www/solutions/handouts/pevirus.html> 1995.\*

Drejhammar. Computer Viruses, Trojans and Logical Bombs, <http://www.student.nada.kth.se/~d95-fdr/compvir.html>.

1996.\*

Protecting Electronic Health Information. <http://www.nap.edu/readingroom/books/ptr52fe.html> 3/97.\*

Fox et al, Reducing WWW latency and Bandwidth Requirements by Real Time Distillation 5/1996.\*

Wu et al, An Efficient JPEG to MPEG-1 Transcoding Algorithm. IEEE 6/1996.\*

Fox, Gribble, Chawathe and Brewer, Adapting to network and client variation using infrastructural proxies; lessons and perspectives, IEEE Personal Communications, vol. 5, Iss. 4, Aug. 1998, pp. 10-19.\*

Zenel and Duchamp, "General purpose proxies: solved and unsolved problems," Sixth Workshop on Hot Topics in Operating Systems, May 1997, pp. 87-92.\*

Fox et al., "Adapting to Network and Client Variability via On-Demand Dynamic Distillation," U of C at Berkeley, 9/1996.\*

Armando Fox and Eric A. Brewer, "Reducing WWW Latency and Bandwidth Requirements by Real-Time Distillation," Fifth International World Wide Web Conference, May 6-10, 1996.

Armando Fox et al., Adapting to Network and Client Variability via On-Demand Dynamic Distillation, University of Cal. at Berkeley, Sep. 1996.

\* cited by examiner

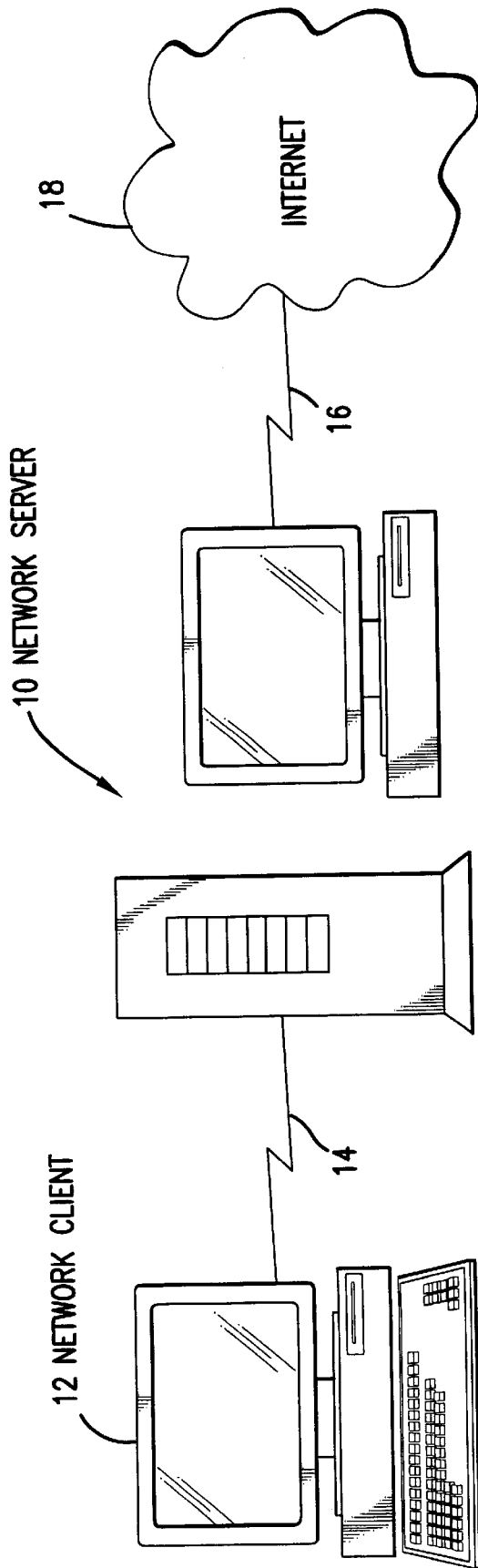


FIG. 1

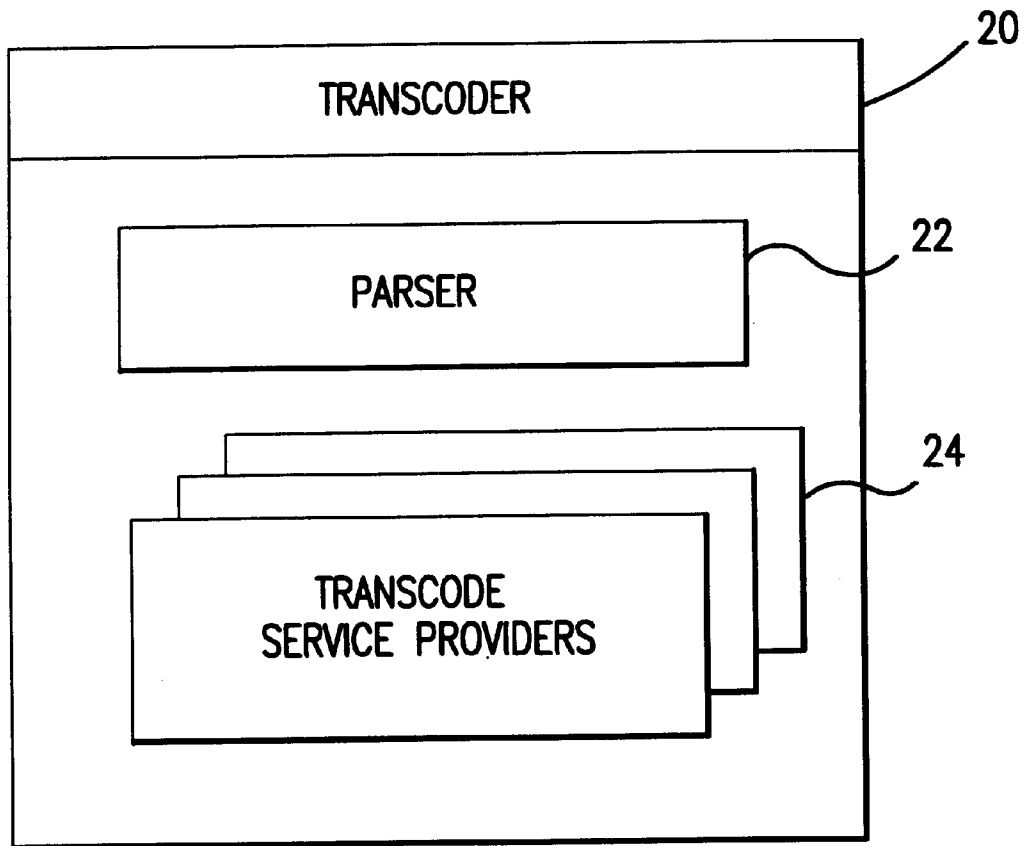


FIG. 2

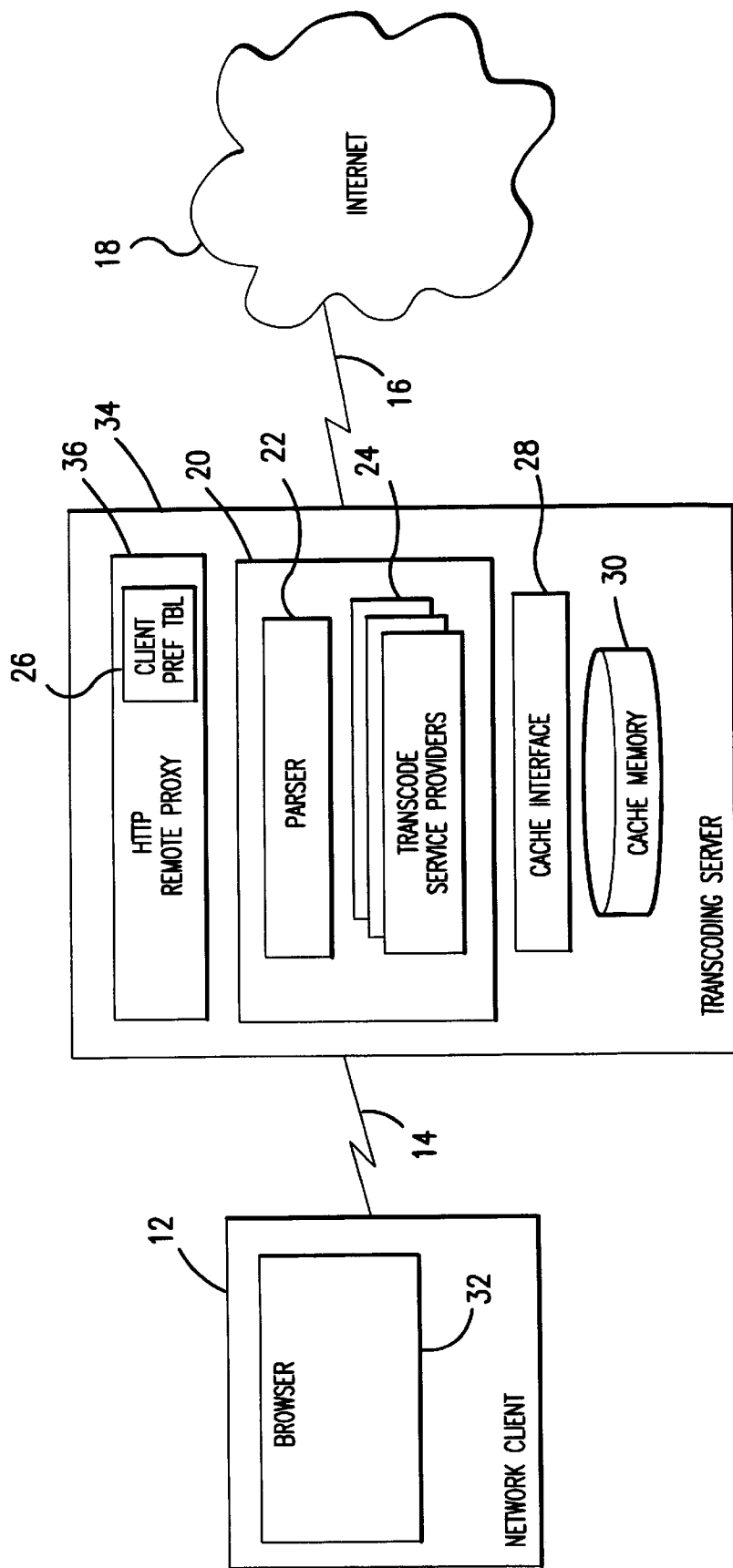


FIG.3

# 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.