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Chiarabini et al.

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(54) **SYSTEM AND METHOD FOR DOWNLOADING AND FOR PRINTING DATA FROM AN EXTERNAL CONTENT SOURCE**

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Related U.S. Application Data

(63) Continuation-in-part of application No. 09/513,441, filed on Feb. 25, 2000, now abandoned.

(30) **Foreign Application Priority Data**

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(51) **Int. Cl.**
G06F 3/12 (2006.01)
G06F 15/00 (2006.01)

(52) **U.S. Cl.** **358/1.15**; 358/1.13

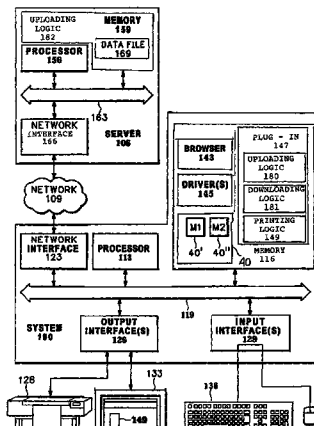(58) **Field of Classification Search** 358/1.15, 358/402, 1.13, 1.16, 1.17, 1.18, 1.14, 1.1; 705/9; 718/1, 100; 709/200
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,438,436 A * 8/1995 Harris 358/500

5,727,137 A * 3/1998 LeClair et al. 358/1.17
6,009,153 A * 12/1999 Houghton et al. 379/102.02

(Continued)

FOREIGN PATENT DOCUMENTS

EP	0 704 792	9/1995
EP	0 733 965	9/1996
EP	0 795 817	9/1997
EP	0 911 723	4/1999
GB	2 325 997	12/1998

OTHER PUBLICATIONS

B. Noghani et al., "Reducing Latency on the Internet using "Component-Based Download" and "File-Segment Transfer Protocol": Experimental Result", Proceedings of the Jul. 2000 Symposium on Performance Evaluation of Computer and Telecommunication Systems.*

(Continued)

Primary Examiner—Dov Popovici

(57) **ABSTRACT**

A system and method are provided for enabling faster downloading and printing of data received from an external content source. In one embodiment, the method is segmenting the data file available on a content source external to the user computing device into a plurality of portions; independently downloading to said computing device each of said plurality of portions; and assembling each downloaded portion into a second data file on said computing device, to mach such first data file. In a second embodiment the method is (a) selecting a first data file to be printed from said plurality of data files; (b) downloading said selected data file form a content source external to a computing device connected to the printer, (c) once said selected data file is entirely downloaded into said computing device, processing said selected data file and sending the processed data to the printer for printing; and (d) during said steps of processing and sending, selecting the following data file from said plurality of data files and repeating steps (b) (c) and (d) for said selected data file.

13 Claims, 6 Drawing Sheets

U.S. PATENT DOCUMENTS

6,025,923	A	*	2/2000	Kageyama et al. 358/1.14
6,031,624	A	*	2/2000	Murphy 358/1.17
6,238,105	B1	*	5/2001	Pardo 358/1.17
6,313,921	B1	*	11/2001	Kadowaki 358/1.15
6,392,758	B2	*	5/2002	Hines 358/1.9
6,426,799	B1	*	7/2002	Okimoto et al. 358/1.15
6,691,166	B1	*	2/2004	Gasior et al. 709/232
6,775,705	B2	*	8/2004	Maeda 709/230
6,982,801	B1	*	1/2006	Saito 358/1.15

OTHER PUBLICATIONS

Tachibana Hiroaki; Patent Abstracts of Japan—JP 110127276; Nov. 21, 2000.

Chuck Forsberg; "Evolution and Selection of File Transfer Protocols"; http://www.omen.com/zmdmev.html; 7 pages.

Search Report for Corresponding Great Britain Application No. GB 0021063.3.

* cited by examiner

PRIOR ART

FIG 1

FIG. 7

FIG. 2

FIG.3
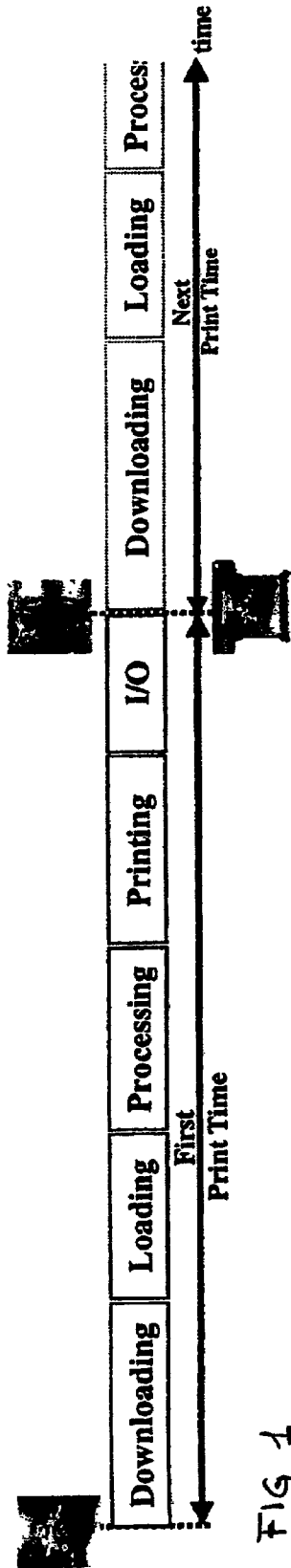
DOCKET ALARM
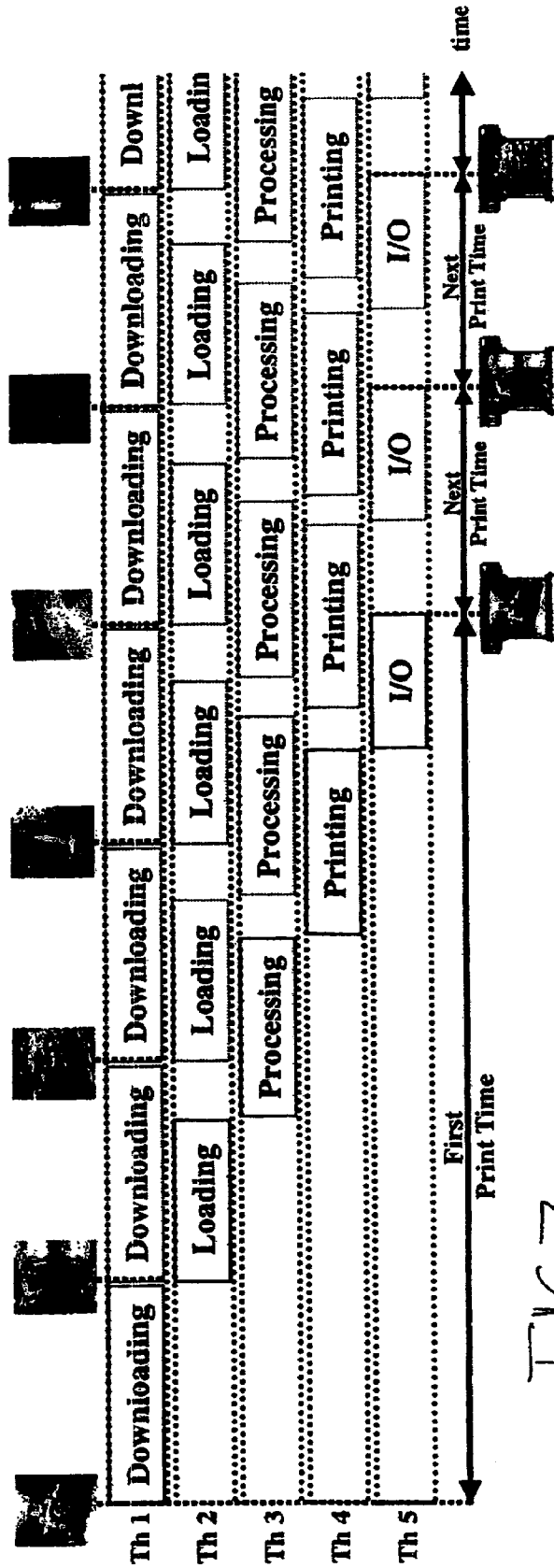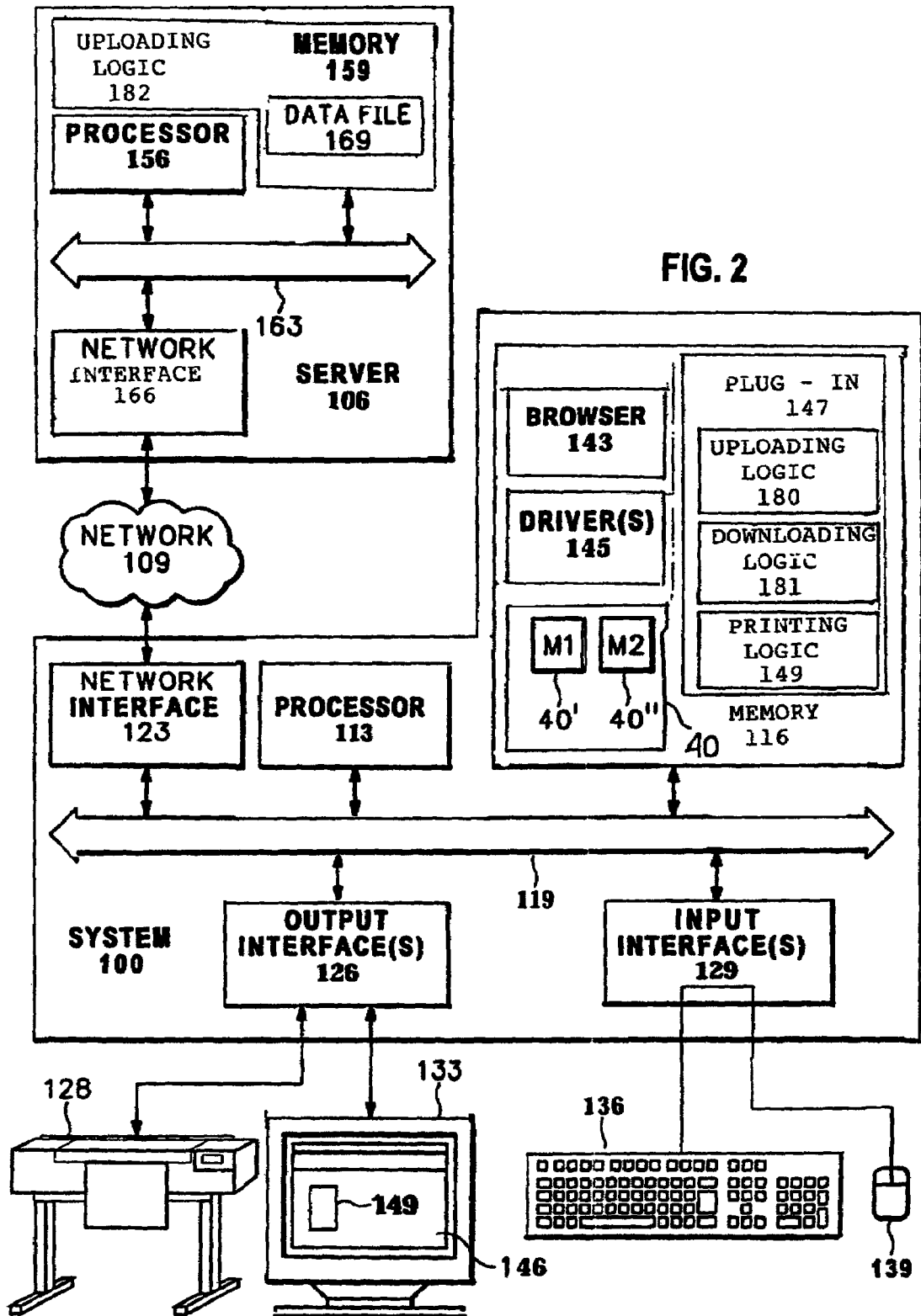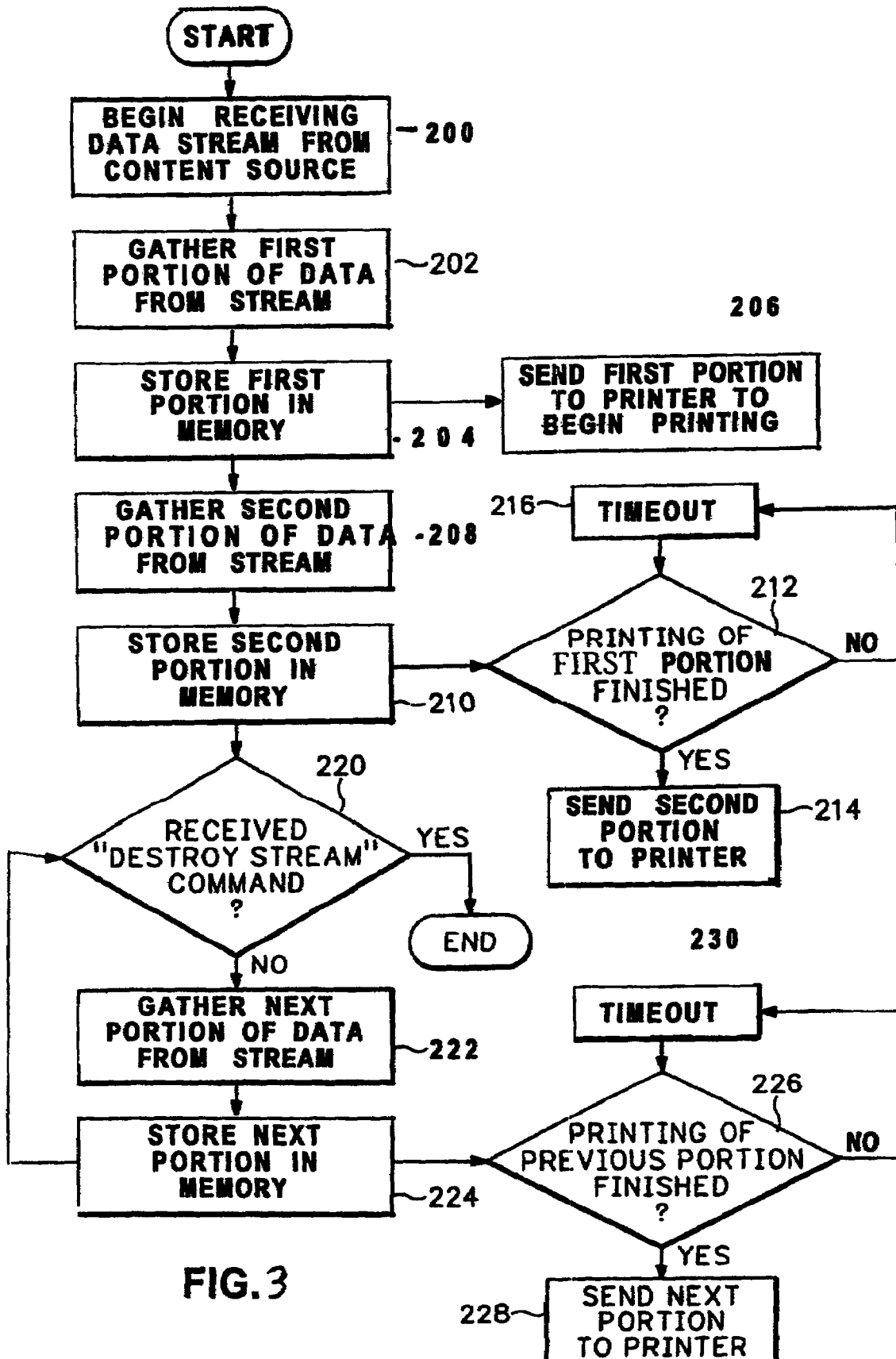
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