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# (12) United States Patent Riddle

## (54) ENHANCED FLOW DATA RECORDS INCLUDING TRAFFIC TYPE DATA

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(73) Assignee: Packeteer, Inc., Cupertino, CA (US)

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U.S.C. 154(b) by 952 days.

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(2006.01)

## (56) References Cited

#### U.S. PATENT DOCUMENTS

4,914,650	A	4/1990	Sriram
5,828,846	A *	10/1998	Kirby et al 709/238
6,003,077	A	12/1999	Bawden et al.
6,023,456	A	2/2000	Chapman et al.
6,046,980	A	4/2000	Packer
6,219,050	B1	4/2001	Schaffer
6,285,660	B1	9/2001	Ronen
6,397,359	В1	5/2002	Chandra et al.
6,584,467	B1	6/2003	Haught et al.
6,681,232	В1	1/2004	Sistanizadeh et al.

## (10) Patent No.: US 7,385,924 B1 (45) Date of Patent: Jun. 10, 2008

6,701,359 B1	3/2004	Calabrez et al.
6,738,352 B1*	5/2004	Yamada et al 370/238
6,798,763 B1	9/2004	Kimura et al.
6,894,972 B1*	5/2005	Phaal 370/229
7,120,931 B1*	10/2006	Cheriton 726/13
7,193,968 B1*	3/2007	Kapoor et al 370/235
2002/0122427 A1	9/2002	Kamenisky et al.
2002/0143901 A1	10/2002	Lupo et al.
2003/0035365 A1	2/2003	Walsh et al.
2003/0112764 A1	6/2003	Gaspard et al.

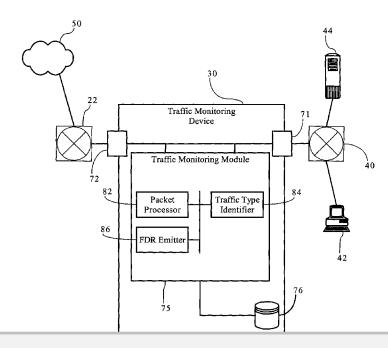
## \* cited by examiner

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## (57) ABSTRACT

Methods, apparatuses and systems directed to a flow-based, traffic-classification-aware data collection and reporting system that combine flow-based data collection technologies with enhanced traffic classification functionality to allow for analysis and reporting into aspects of network operations that prior art systems cannot provide. Embodiments provide enhanced views into the operation of computer network infrastructures to facilitate monitoring, administration, compliance and other tasks associated with networks. When a traffic flow terminates, a traffic monitoring device emits a flow data record (FDR) containing measurements variables and other attributes for an individual flow. A data collector gathers the flow data records and enters them into a database. A network management application can then query the database with selected commands to derive reports characterizing operation of the network suitable to diagnose problems or view conditions associated with the network.

## 26 Claims, 7 Drawing Sheets





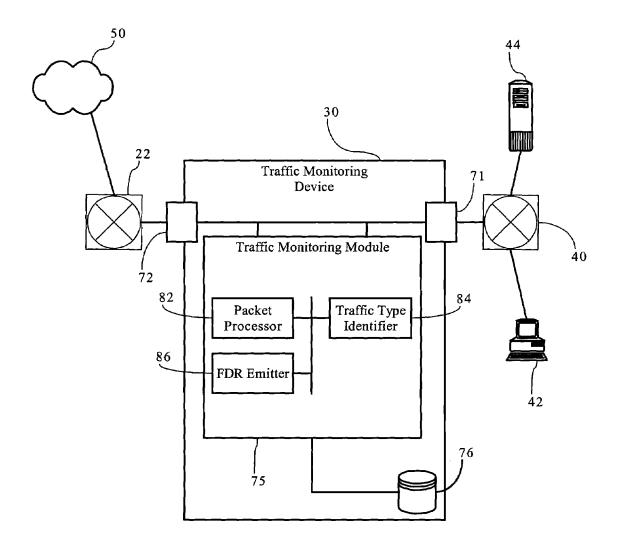
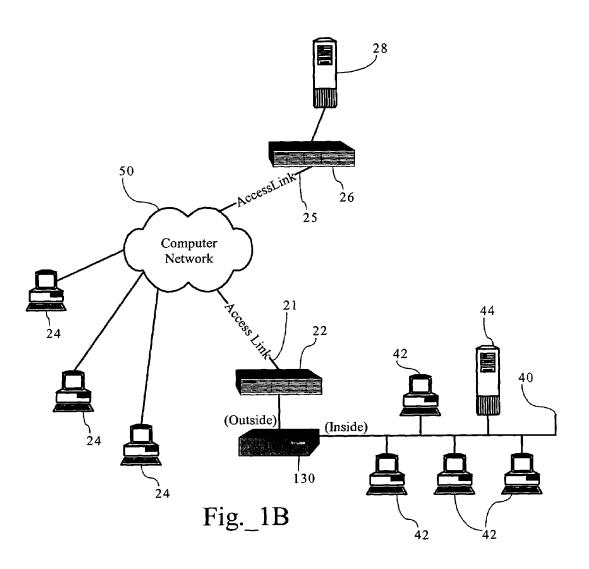
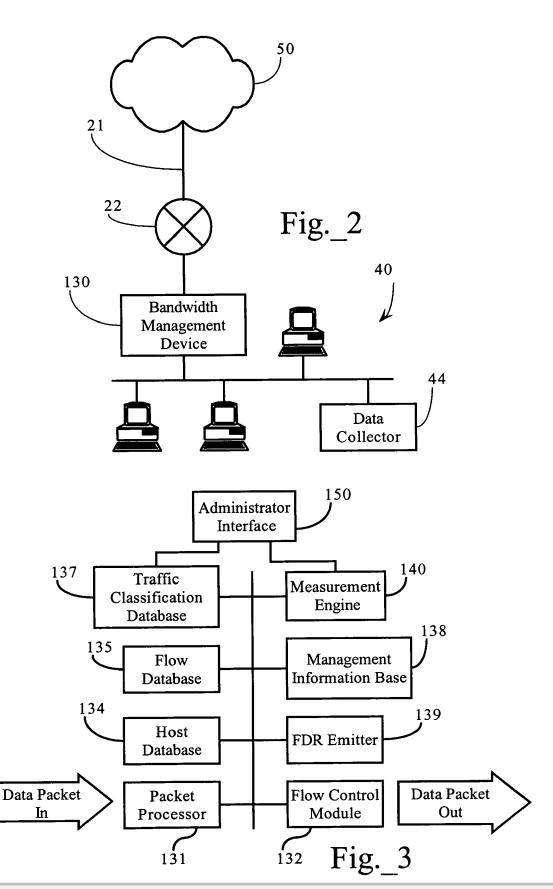


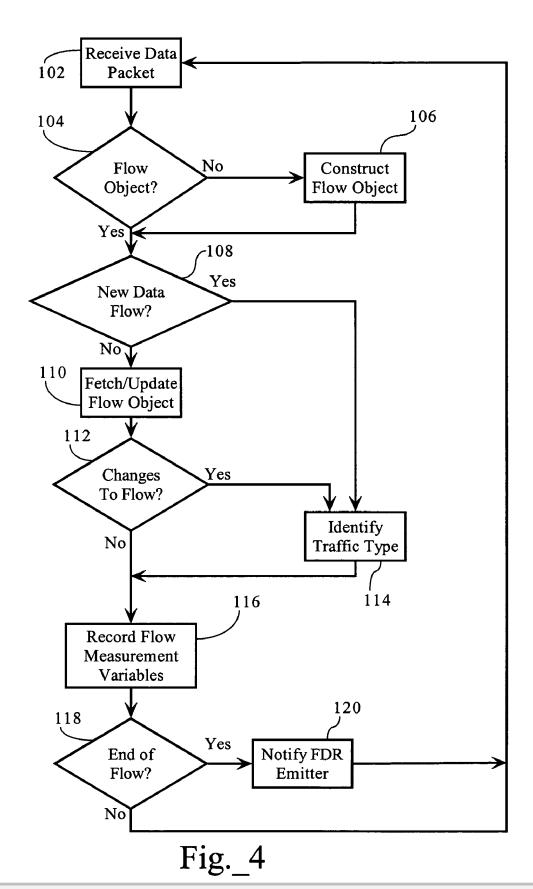
Fig.\_1A













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