



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Art Unit 2665
Examiner Phuongchau Ba Nguyen

In Re: Deepak Mansharamani et al.
Case: P4506
Serial No.: 09/800,678
Filed: March 6, 2001
Subject: System for Fabric Packet Control

To: The Commissioner of Patents
PO Box 1450
Arlington, VA 22313-1450

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Technology Center 2600

Dear Sir:

Response D

All of the claims standing for examination are presented below. Claims 1, 5 and 9 are herein amended in the present response.

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1. (Currently amended) A method for managing data traffic at switching element nodes in a fabric network, each switching element node having a plurality of input and output ports, comprising the steps of:

- (a) establishing at each input port, a number of virtual output queues equal to the number of output ports, each virtual output queue at each individual input port dedicated to an individual output port, storing only packets destined for the associated output port, for managing incoming data traffic; and
- (b) accepting or discarding data at each virtual output queue directed to a

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queue according to ^athe quantity of data in the queue relative to ^{the}queue capacity by providing a queue manager for monitoring quantity of queued data in relation to a preset threshold, and discarding data ^{each}from the virtual output queue at a predetermined rate, ~~regardless of the data source rate to the queue~~, when the quantity of queued data reaches or exceeds the threshold.

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2. (Original) The method of claim 1 wherein, in step (b), all data is discarded for a full queue.

3. (Cancelled)

4. (Previously amended) The method of claim 1 wherein in step (b), the queue manager increases the rate of discarding as quantity of queued data increases above the preset threshold, discarding all data traffic when the queue is full.

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5. (Currently amended) A switching element node for a fabric network, comprising:

a plurality of input and output ports;

a number of virtual output queues at each input port equal to the number of output ports, each virtual output queue at each individual input port dedicated to an individual output port, storing only packets destined for the associated output port, for managing incoming data traffic; and

characterized in that ~~the~~ ^aa queue manager accepts or discards data directed to ~~a~~ ^athe queue according to ~~the~~ ^athe quantity of data in the queue relative to ^{the}queue capacity by monitoring quantity of queued data against a preset threshold, and discarding data ^{each}from the virtual output queue at a predetermined rate, ~~regardless of the data source rate to the queue~~ when the quantity of queued data reaches or

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exceeds the threshold, ¹

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6. (Original) The switching element of claim 5 wherein all data is discarded for a full queue.

7. (Cancelled)

8. (Previously amended) The switching element of claim 5 wherein the queue manager increases the rate of discarding as the quantity of queued data increases above the preset threshold.

9. (Currently amended) A data router having external connections to other data routers, comprising:

an internal fabric network; and

a plurality of switching element nodes in the internal fabric network, each switching element node having a plurality of input and output ports, and at each input port, a number of virtual output queues equal to the number of output ports, each virtual output queue at each individual input port dedicated to an individual output port, storing only packets destined for the associated output port, for managing incoming data traffic;

characterized in that the a queue manager accepts or discards data directed to a the queue according to the quantity of data in the queue relative to queue capacity by monitoring the quantity of queued data against a preset threshold, and begins to discard data from the virtual output queue at a predetermined rate, regardless of the data source rate to the queue when the quantity of queued data reaches or exceeds the threshold. ¹

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10. (Original) The data router of claim 9 wherein all data is discarded for a full queue.

11 (Cancelled)

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12. (Previously amended) The data router of claim 9 wherein the queue manager increases the rate of discarding as the quantity of queued data increases above the preset threshold.

REMARKS

The present response is filed with a Request for Continued Examination (RCE), and is to the Office Action mailed in the above-referenced case on November 19, 2003, made Final. Claims 1, 2, 4-6, 8-10 and 12 are presented below for examination. The Examiner has objected to claims 5 and 9 due to informalities, and has rejected claims 1, 2, 4-6, 8-10 and 12 under 35 U.S.C. 103(a) as being unpatentable over Khacherian (5,768,257), hereinafter Khacherian, in view of Aimoto (6,122,252), hereinafter Aimoto.

Applicant has again carefully studied the prior art references cited and applied by the Examiner, and the Examiner's rejections and statements of the instant Office Action. In response, applicant herein amends claims 5 and 9 to correct the objectionable language, thereby overcoming the 112 rejection, and slightly amends the language of the independent claims to more particularly point out and distinctly claim the patentable subject matter of applicant's invention, and to distinguish applicant's claims unarguably over the prior art. Applicant herein provides further argument in support of said claim amendments.

Applicant herein amends the language of claim 1 to specifically recite that the queue manager discards data from the virtual output queue at a predetermined rate when the quantity of queued data reaches the threshold, regardless of the data source rate to the virtual output queue. For convenience, applicant reproduces claim 1 as amended below.

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