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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/123,801	05/06/2005	Ronen Solomon	06727/0202901-US0	8375

7278 7590 12/11/2008
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EXAMINER
KAVLESKI, RYAN C

ART UNIT	PAPER NUMBER
2419	

MAIL DATE	DELIVERY MODE
12/11/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	11/123,801	SOLOMON, RONEN	
	Examiner	Art Unit	
	Ryan C. Kavleski	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Orckit Exhibit 2009
Cisco Systems, Inc. v. Orckit Corp.
IPR2023-00554, Page 2 of 17

Response to Amendments

1. This communication is in response to Applicant's reply filed under 3 CFR 1.111 on 8/5/2008. Claims 1,4,15, and 18 were amended, claims 29-32 were added and claims 1-32 remain pending.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1,2,4-10,14-16,18-24, and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman et al. (US 2004/0228278)(Bruckman hereafter) in view of Ramia et al. (US 2005/0125490)(Ramia hereafter).

Regarding claims 1,15,31, and 32, Bruckman teaches a method for processing data packets in a communication network, comprising:
establishing a for a flow (connection) of the data packets through the communication network (a connection is established for the transmission of data between endpoints)[paragraph 0027], at a node along the path (system A)[refer Fig. 1; 22], which is connected to a subsequent node [refer Fig. 1; 24] along the path by a Link Aggregation (LAG) group [refer Fig. 1; 36][paragraph 0048] comprising a plurality of aggregated physical ports (an aggregation group consists of physical links)[paragraph 0048].

Bruckman doesn't explicitly disclose in a current embodiment that the node selects a port from among the LAG group to serve as part of the path.

However, Bruckman discloses that within the prior art that a distributor with link aggregation, as according to the 802.3 standard, takes information carried in an Ethernet frame and makes a decision to a physical port to which a frame of a conversation should be sent when in communication with end stations [paragraph 0004].

It would have been obvious to one of ordinary skilled in the art given the teachings of Bruckman for a system using link aggregation to, in accordance to the 802.3 standard, to select and maintain a particular physical port to send data frames in a conversation to an end station [refer Bruckman; abstract].

However Bruckman doesn't explicitly disclose choosing a label responsively to a selected port, attaching the label to the data packets in the flow at a point on the path upstream from the node, and upon receiving the data packets at the node, switching the data packets to the subsequent node through the selected port responsively to the label.

Regarding claims 2 and 16, Bruckman doesn't explicitly disclose that a path comprises a tunnel through the communication network.

Ramia teaches a Multi-Protocol Label Switching (MPLS) system that uses downstream nodes to determine labels and distribute the label information upstream [paragraph 0028], the label stack (label) in a packet defining the path (nested tunnel) of the packet through an MPLS network [paragraph 0038]. Ramia teaches that the labels

are assigned to data packets belonging to a particular forwarding equivalence class (FEC), which is a group of packets forwarded in the same manner or over the same path [paragraph 0005], and the labels can be unique to a certain interface or port when assigned [paragraph 0027]. Ramia further teaches that when a label switching router (LSR) receives a packet, the LSR will use the label as an index to a forwarding table and determine an outbound label and interface which will specify a next hop for a packet [paragraph 0024].

It would have been obvious to one of ordinary skilled in the art given the teachings of Bruckman for a node comprising of LAG ports to transmit data over a path with an allocated bandwidth [refer Bruckman; abstract] to combine with the teachings of Ramia to implement MPLS on the node as an LSR. One would be motivated to combine the teachings because MPLS would allow the data packets to be forwarded from the node using LAG while using capabilities such as quality of service and traffic management that would be available with MPLS labels [refer Ramia; paragraph 0002 and paragraph 0005].

Regarding claims 4 and 18, Bruckman teaches that the LAG group, conforms to an IEEE 802.3ad specification (the link aggregation system operates in accordance to the IEEE 802.3 standard)[paragraph 0048 and paragraph 0075].

Regarding claims 5 and 19, Bruckman teaches that in establishing the path comprises receiving a request to establish the path from a preceding node in the communication

network which is located upstream along the path (when setting up a new connection (path), a request is received by the system or equipment to allocate resources [refer Fig. 1; 22][paragraph 0055]).

However, Bruckman doesn't explicitly disclose that attaching the label comprises sending the label to the preceding node, to be attached to the packets sent by the preceding node.

Ramia teaches a Multi-Protocol Label Switching (MPLS) system that uses downstream nodes to determine labels and distribute the label information upstream [paragraph 0028], the label stack (label) in a packet defining the path (nested tunnel) of the packet through an MPLS network [paragraph 0038]. Ramia teaches that the labels are assigned to data packets belonging to a particular forwarding equivalence class (FEC), which is a group of packets forwarded in the same manner or over the same path [paragraph 0005], and the labels can be unique to a certain interface or port when assigned [paragraph 0027]. Ramia further teaches that when a label edge router (LER)(preceding node) attaches a label to a packet and fowards the packet to a next hope (one of the LSRs) [paragraph 0023].

It would have been obvious to one of ordinary skilled in the art given the teachings of Bruckman for a node comprising of LAG ports to transmit data over a path with an allocated bandwidth [refer Bruckman; abstract] to combine with the teachings of Ramia to implement MPLS on the node as an LSR. One would be motivated to combine the teachings because MPLS would allow the data packets to be forwarded from the node using LAG while using capabilities such as quality of service and traffic

management that would be available with MPLS labels [refer Ramia; paragraph 0002 and paragraph 0005].

Regarding claims 6 and 20, Bruckman teaches that in establishing the path comprises receiving an indication of a requested service property (service level agreement) of the flow (the connection admission control (CAC) entity manages the allocation of bandwidth to customers [paragraph 0050] using the guaranteed and allocated excess bandwidth as required by a service level agreement [paragraph 0052]).

Bruckman doesn't explicitly disclose within the current embodiment that selecting a port comprises assigning the port to the flow so as to comply with the requested service property.

However, Bruckman discloses that within the prior art that a distributor with link aggregation, as according to the 802.3 standard, takes information carried in an Ethernet frame and makes a decision to a physical port to which a frame of a conversation should be sent when in communication with end stations [paragraph 0005].

It would have been obvious to one of ordinary skilled in the art given the teachings of Bruckman for the CAC to manage flows as required by their service level agreements using link aggregation to, in accordance to the 802.3 standard, to select and maintain a particular physical port to send data frames in a conversation to an end station as specified by the service level agreement in the packets [refer Bruckman; paragraph 00014].

Regarding claims 7 and 21, Bruckman teaches that the requested service property (service level agreement) comprises at least one of a guaranteed bandwidth, a peak bandwidth and a class-of-service (a service level agreement is between a network service provider and a customer to specify a committed bandwidth or information rate that is guaranteed for a customer, which can also generally specify peak information rate or bandwidth)[paragraph 0013].

Regarding claims 8 and 22, Bruckman teaches links having a maximum available bandwidth out of the plurality of aggregated links (ports) (each line card which comprises of the multiple ports serving a respective link, connections are weighted based on a bandwidth contracted for a user in the user's service level agreement [paragraph 0072].

Regarding claims 9 and 23, Bruckman teaches links having a minimum available bandwidth out of the plurality of aggregated links (ports), which is still greater than or equal to a guaranteed bandwidth (connections are weighted based on a bandwidth contracted for a user in the user's service level agreement [paragraph 0072]).

Bruckman doesn't explicitly disclose within the embodiment that a port is selected to meet the bandwidth requirements.

However, Bruckman discloses that within the prior art that a distributor with link aggregation, as according to the 802.3 standard, takes information carried in an Ethernet frame and makes a decision to a physical port to which a frame of a

conversation should be sent when in communication with end stations [paragraph 0005]. Bruckman further discloses within the prior art that the conversations that define a flow are the communication from one end station to another [paragraph 0004].

It would have been obvious to one of ordinary skilled in the art given the teachings of Bruckman for the CAC to manage flows as required by a customer's (end station) service level agreements using link aggregation to, in accordance to the 802.3 standard, to select and maintain a particular physical port to send data frames in a conversation to an end station as specified by the service level agreement in the packets [refer Bruckman; paragraph 00014].

Regarding claims 10 and 24, Bruckman that switching the data packets comprises mapping the data packets to the selected port responsively to a label (header)(a distributer determines the link over which to send a frame based on the information in the frame header [paragraph 0058], which comprises of using a hash function on the header to, as known in the prior art, to generate a port number [paragraph 0012]).

Regarding claims 14 and 28, Bruckman teaches allocating another port from among the plurality of aggregated ports, different from the selected port, to serve as a backup port (an aggregator controling link aggregation allows for the multiple links or ports in a group to continue operation in the event of a link failure)[paragraph 0057]; and responsively to a service interruption (failure) of the selected port (link), replacing the

selected port with the backup port as part of the path (if a link fails in an aggregation group, the remaining links will be allocated to carry the failed link traffic)[paragraph 0067][paragraph 0074].

Regarding claims 29 and 30, Bruckman doesn't explicitly disclose that a node comprises a Label Switched Router (LSR).

Ramia teaches a Multi-Protocol Label Switching (MPLS) system that uses downstream nodes to determine labels and distribute the label information upstream [paragraph 0028], the label stack (label) in a packet defining the path (nested tunnel) of the packet through an MPLS network [paragraph 0038]. Ramia teaches that the labels are assigned to data packets belonging to a particular forwarding equivalence class (FEC), which is a group of packets forwarded in the same manner or over the same path [paragraph 0005], and the labels can be unique to a certain interface or port when assigned [paragraph 0027]. Ramia further teaches that when a label switching router (LSR) receives a packet, the LSR will use the label as an index to a forwarding table and determine an outbound label and interface which will specify a next hop for a packet [paragraph 0024].

It would have been obvious to one of ordinary skilled in the art given the teachings of Bruckman for a node comprising of LAG ports to transmit data over a path with an allocated bandwidth [refer Bruckman; abstract] to combine with the teachings of Ramia to implement MPLS on the node as an LSR. One would be motivated to combine the teachings because MPLS would allow the data packets to be forwarded

from the node using LAG while using capabilities such as quality of service and traffic management that would be available with MPLS labels [refer Ramia; paragraph 0002 and paragraph 0005].

2. Claims 3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman et al. in view of Ramia et al. in further view of Goguen et al. (US 6,665,273)(Goguen herafter).

Regarding claims 3 and 17, Bruckman doesn't explicitly disclose that the tunnel comprises a MPLS (Multi-Protocol Label Switching) tunnel.

Ramia teaches a Multi-Protocol Label Switching (MPLS) system that uses downstream nodes to determine labels and distribute the label information upstream [paragraph 0028], the label stack (label) in a packet defining the path (nested tunnel) of the packet through an MPLS network [paragraph 0038].

However, Ramia doesn't explicitly disclose that establishing the path comprises receiving and responding to a RSVP-TE (Resource Reservation Protocol) PATH message.

Goguen teaches in the prior art that in creating traffic engineering (TE) paths or tunnels with specified label switched paths in MPLS, a Resource Reseveration Protocol (RSVP) is used to construct the tunnels by requesting for a label [column 2 lines 19-40].

It would have been obvious to one of ordinary skilled in the art given the teachings of Bruckman for a node comprising of LAG ports to transmit data over a path with an allocated bandwidth [refer Bruckman; abstract] to combine with the teachings of Ramia to implement MPLS on the node as an LSR. One would be motivated to combine the teachings because MPLS would allow the data packets to be forwarded from the node using LAG while using capabilities such as quality of service and traffic management that would be available with MPLS labels [refer Ramia; paragraph 0002 and paragraph 0005].

It would have been obvious to one of ordinary skilled in the art given the teachings of Ramia for an MPLS system of setting up tunnels for guaranteed bandwidth to use RSVP to request a label for a path or tunnel as disclosed by Goguen. One would be motivated to combine the teachings because in doing so would allow label switched routers to reserve network resources for quality of service guarantees for flows [refer Goguen; column 1 lines 42-56].

3. Claims 11-13,25-27,31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman et al. in view of Ramia et al. in further view of Larson et al. (US 2004/0107285)(Larson herafter).

Regarding claims 11,25,31, and 32, Bruckman teaches that mapping the data packets comprises applying a hashing function to the header so as to determine a number of the selected port (a distributer determines the link over which to send a frame

based on the information in the frame header [paragraph 0058], which comprises of using a hash function on the header to, as known in the prior art, to generate a port number [paragraph 0012]).

However Bruckman doesn't explicitly disclose choosing a header or label comprises applying an inverse of the hashing function to the number of the Selected port.

Larson teaches a hashing function with a one-to-one mapping that generates a sync portion from a sync value, a "private" header which is an inner header for a packet contains an encrypted (hashed) link key as part of a sync (port number) [paragraph 0178]. Larson further teaches that when a packet is received by a node, the inner header is decrypted by using a decryption (hashing) function to extract the sync portion, and if a sync portion is still valid, it is extracted from memory and added to a packet, which could be an inverse hash [paragraph 0178].

It would have been obvious to one of ordinary skilled in the art given the teachings of Bruckman for performing hashing on a header (label) to determine a port number to combine with the teachings of Larson for using an inverse hash function in memory to be able to produce a port number in a header. One would be motivated to combine because in performing a hashing function (decryption) on a header or label to find information, i.e. port number, devices in communication would be cable of having an inverse hashing function to create a hashed (encrypted) header or label containing the port number for distributed packets.

Regarding claims 12 and 26, Bruckman teaches extracting the one or more bits from the label (header) so as to determine the number of the selected port (a distributer determines the link over which to send a frame based on the information in the frame header [paragraph 0058], which comprises of using a hash function on the header to, as known in the prior art, to generate a port number [paragraph 0012]).

However, Bruckman doesn't explicitly disclose choosing a label (header) comprises inserting into the label one or more bits that correspond to a number of the selected port.

Regarding claims 13 and 27, Bruckman teaches extracting a number from the memory responsively to the label (header) so as to determine the number of the selected port (a distributer determines the link over which to send a frame based on the information in the frame header [paragraph 0058], which comprises of using a hash function on the header to, as known in the prior art, to generate a port number [paragraph 0012]).

However, Bruckman doesn't explicitly disclose storing the label (header) and a number of the selected port in a memory.

Larson teaches a hashing function with a one-to-one mapping that generates a sync portion from a sync value, a "private" header which is an inner header for a packet contains an encrypted (hashed) link key as part of a sync (port number) [paragraph 0178]. Larson further teaches that when a packet is received by a node, the inner header is decrypted by using a decryption (hashing) function to extract the sync portion,

and if a sync portion is still valid, it is extracted from memory and added to a packet, which could be an inverse hash [paragraph 0178].

It would have been obvious to one of ordinary skilled in the art given the teachings of Bruckman for performing hashing on a header (label) to determine a port number to combine with the teachings of Larson for using an inverse hash function in memory to be able to produce a port number in a header. One would be motivated to combine because in performing a hashing function (decryption) on a header or label to find information, i.e. port number, devices in communication would be cable of having an inverse hashing function to create a hashed (encrypted) header or label containing the port number for distributed packets.

Response to Arguments

1. Applicant's arguments, see pages 8-13, filed 8/5/2008, with respect to the rejections of claim 1 and 15 under 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of newly discovered prior art.

Conclusion

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan C. Kavleski whose telephone number is 571-270-3619. The examiner can normally be reached on Mon-Fri 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ryan Kavleski
/R. C. K./
Examiner, Art Unit 2419

/Hassan Kizou/
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