

# EXHIBIT

# 1006

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

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- (54) **TECHNIQUE FOR INTERNETWORKING TRAFFIC ON CONNECTIONLESS AND CONNECTION-ORIENTED NETWORKS**
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- (73) Assignee: **Lucent Technologies Inc.**, Murray Hill, NJ (US)

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

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(51) **Int. Cl.**<sup>7</sup> ..... **H04L 12/56**; H04L 12/64; H04L 12/66

(52) **U.S. Cl.** ..... **370/237**; 370/466; 370/477; 370/401; 370/412; 370/352; 370/353; 370/354; 370/355; 370/356; 370/236; 370/230.1; 370/389; 370/395.1; 370/395.5; 370/395.65

(58) **Field of Search** ..... 370/229, 230.1, 370/235, 236, 237, 238, 352–353, 354, 355, 356, 357, 359, 389, 392, 395.1, 395.5, 395.51, 395.52, 395.65, 395.7, 395.72, 400, 401, 410, 412, 419, 428, 429, 465, 466, 468, 477

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(57) **ABSTRACT**

Traffic on a connectionless (CL) network, such as IP packets, can be routed onto a connection oriented (CO) network, such as an ATM telephony network, when it is advantageous to do so from a user or service provider viewpoint, without affecting the ability of users to continue to use existing applications. Routing is controlled by nodes called CL-CO gateways, with connectivity to both the CL network and the Co network. When CL traffic originating at a source reached these gateway nodes, a decision is made whether to continue carrying the information in the CL mode, or to redirect the traffic to a CO network. In accordance with one embodiment of the present invention, each CL-Co gateway includes hardware and software modules that typically comprise (a) interfaces to the Co network, (b) interfaces to the CL network (c) a moderately sized packet buffer for temporarily storing packets waiting for CO network setup or turnaround; (d) a database for storing forwarding, flow control header translation and other information, and (e) a processor containing logic for controlling the gateway packet handling operations.

**19 Claims, 9 Drawing Sheets**

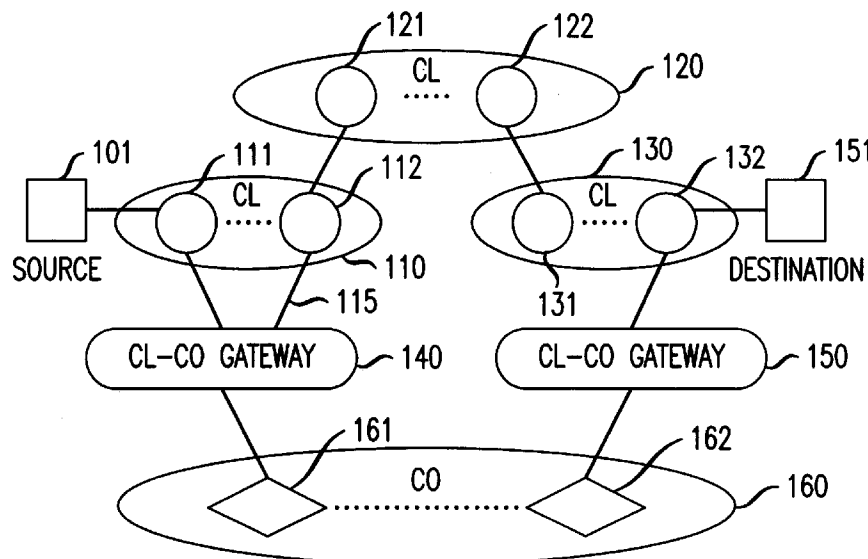


FIG. 1

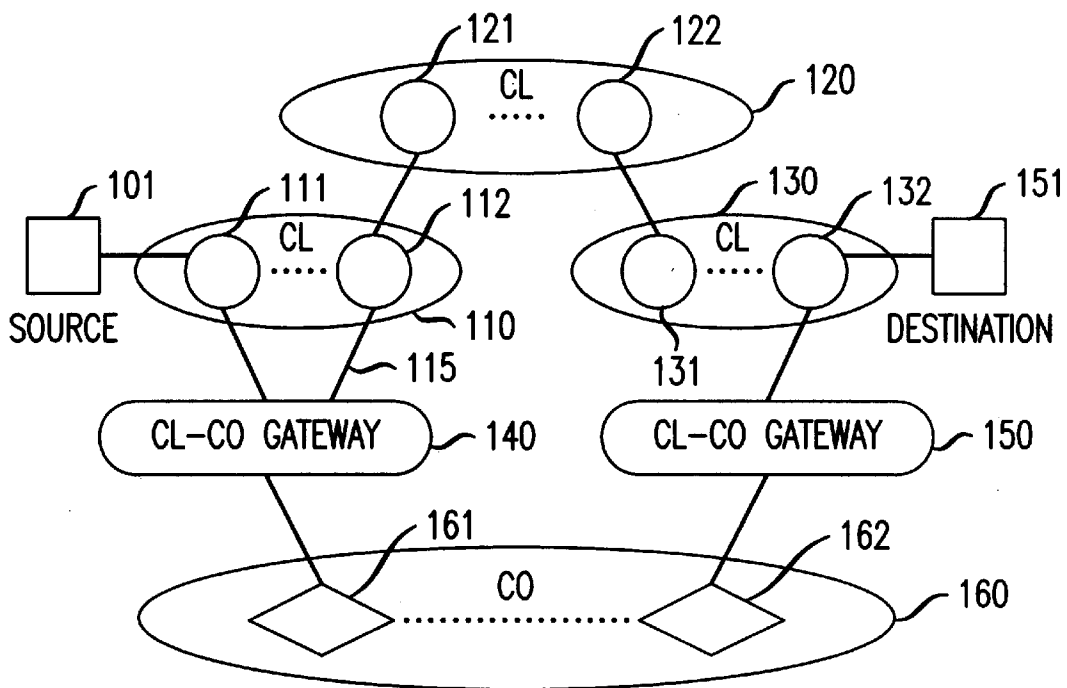


FIG. 2

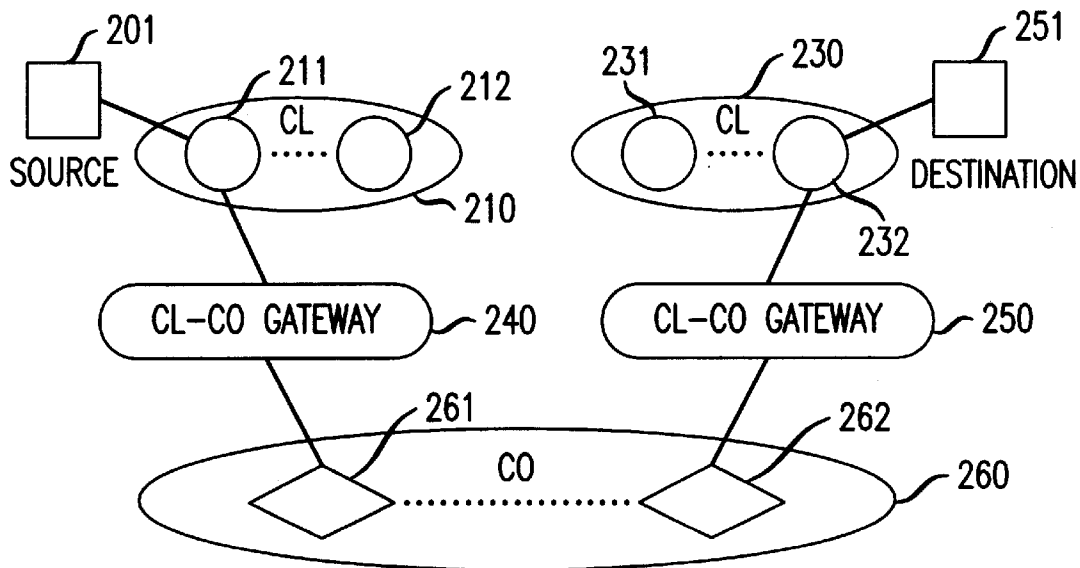
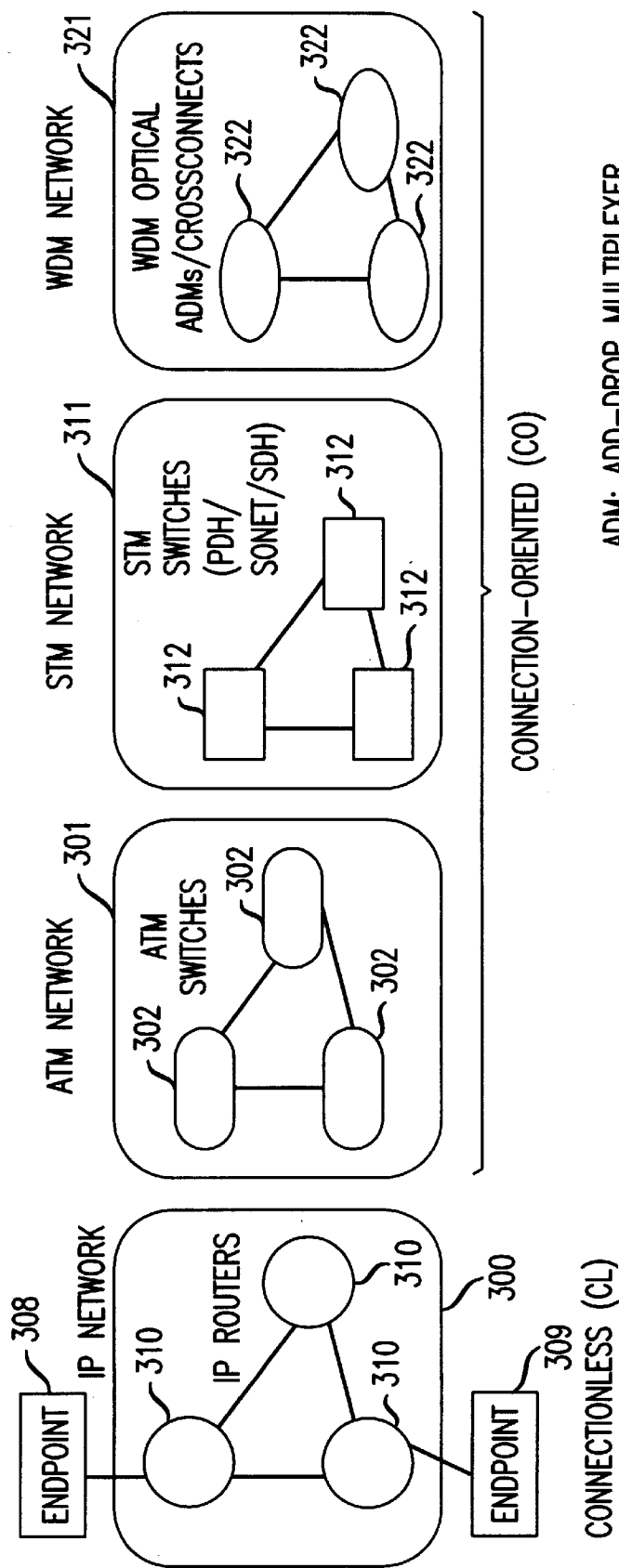
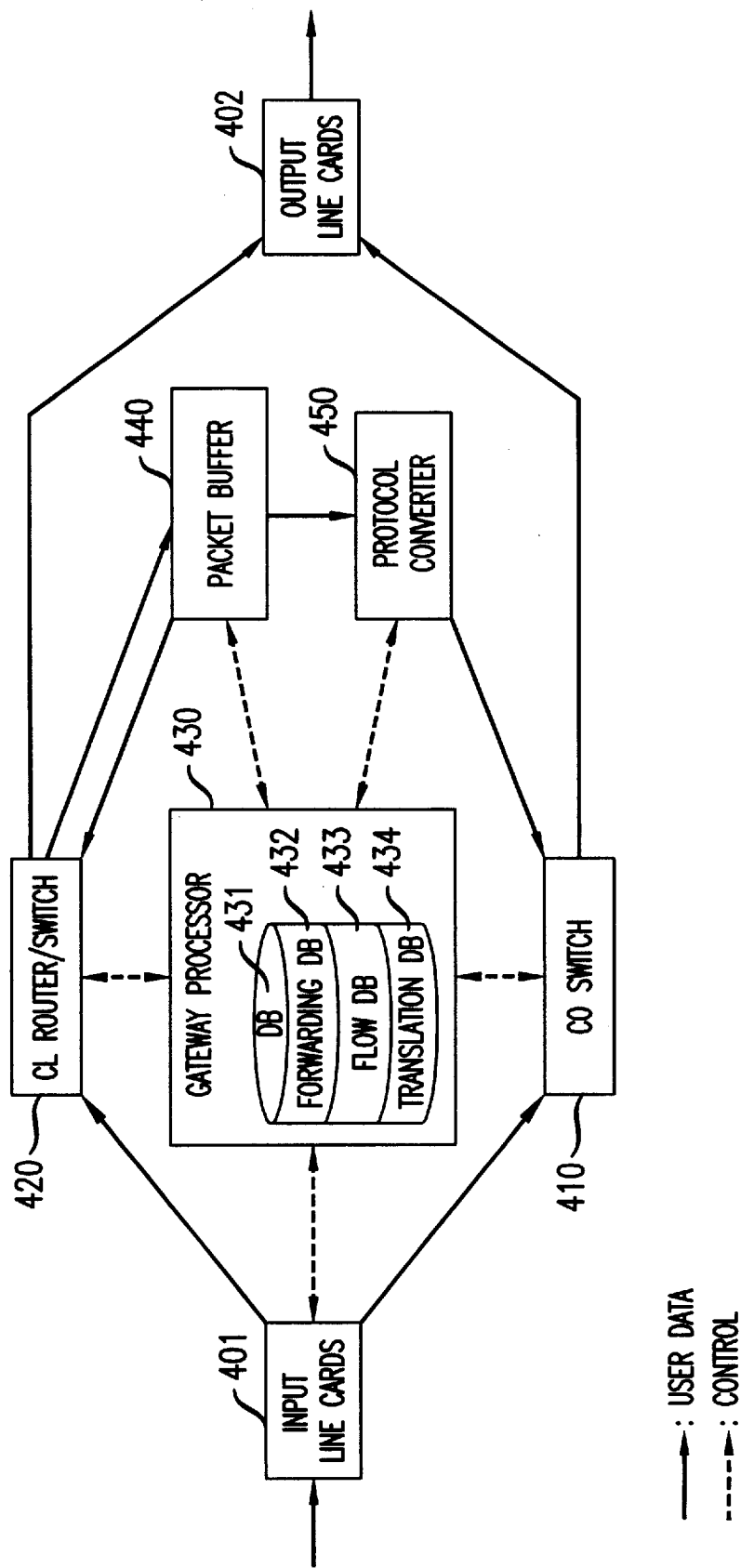


FIG. 3



ADM: ADD-DROP MULTIPLEXER  
 PDH: PLESIOCHRONOUS DIGITAL HIERARCHY  
 SDH: SYNCHRONOUS DIGITAL HIERARCHY  
 SONET: SYNCHRONOUS OPTICAL NETWORK  
 STM: SYNCHRONOUS TRANSFER MODE  
 WDM: WAVELENGTH DIVISION MULTIPLEX

FIG. 4



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