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(57) Abstract :

The apparatus (100) presents a comprehensive solution for bidirectional stream exchange within a content centric network (CCN) environment. Central to its functionality is a versatile CCN gateway (102) that seamlessly bridges the gap between the CCN and the traditional Internet. A highly capable bidirectional stream manager (104) takes charge of the entire stream lifecycle, encompassing efficient establishment, ongoing maintenance, and graceful termination of bidirectional streams connecting CCN endpoints with those in the traditional Internet. Facilitating this process is a robust transport layer (106) that provides a reliable and efficient conduit for data exchange between endpoints. The transport layer's capabilities extend to include a congestion control mechanism, regulating sending rates based on network feedback; a flow control mechanism, expertly buffering data to ensure balanced flow; and an error control mechanism, promptly detecting and rectifying data transmission errors. The CCN gateway's functionality is further enriched by a content store, enabling the storage and retrieval of frequently accessed content within the CCN.

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