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(57) Abstract :  
 The present invention discloses an improved dual-network adaptive router comprising a primary interface (2), secondary interface (3), decision engine (4), prioritization module (9), and classifier (10). The system dynamically switches networks based on jitter (7), latency (5), and bandwidth (8), ensuring uninterrupted connectivity. Application traffic is prioritized using deep packet inspection and learning-based models. A dashboard (11) allows real-time control. The invention ensures adaptive traffic management and high performance under fluctuating network conditions.

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