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(51) International classification	:G06F 11/14, G06F 11/00, G06F 11/20, G06F 11/07, G06F 9/46	(71)Name of Applicant : 1)NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
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(57) Abstract :

A real-time data stream processing engine includes a stream ingestion interface (101), a partition manager (102), an execution scheduler (103), a worker cluster (104), a state store controller (105), a checkpoint coordinator (106), a fault monitor (107), a recovery orchestrator (108), and an output dispatcher (109). Continuous event records are partitioned, executed through distributed operators, and periodically checkpointed with recoverable state references. Upon runtime abnormality, affected partitions are reassigned, restored from a valid checkpoint, and replayed from correlated source positions, thereby supporting fault-tolerant, state-consistent, low-disruption stream processing.

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