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United States Patent [19]

Du et al.

6,041,306 [11] **Patent Number:**

Mar. 21, 2000 **Date of Patent:** [45]

SYSTEM AND METHOD FOR PERFORMING FLEXIBLE WORKFLOW PROCESS **EXECUTION IN A DISTRIBUTED** WORKFLOW MANAGEMENT SYSTEM

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[21] Appl. No.: 08/821,940

[58]

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Related U.S. Application Data

[60] Provisional application No. 60/032,567, Dec. 5, 1996.

Int. Cl.⁷

[52]

395/200.32, 200.33, 182.13

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Primary Examiner—Tod R. Swann Assistant Examiner—Matthew Smithers Attorney, Agent, or Firm-Thomas X. Li

ABSTRACT [57]

A system and method for performing flexible workflow process execution in a distributed workflow management system is described. The distributed workflow management system is formed by a computer network comprising a plurality of computers. Each computer has a processor, memory and input/output facilities. A workflow process management system operates on one or more of the computers to control the computer network in executing the workflow process. The workflow process includes at least one sequence of multiple actions. A plurality of resources is coupled to respective ones of the computers to carry out the multiple actions. A plurality of state machines are stored as computer-operable code in at least one memory and include a plurality of states interconnected by arcs logically forming a directed graph. The workflow management system further includes logic for instantiating each action with one state and logic for executing the logical sequence of the action as state transitions in each state machine.

7 Claims, 10 Drawing Sheets

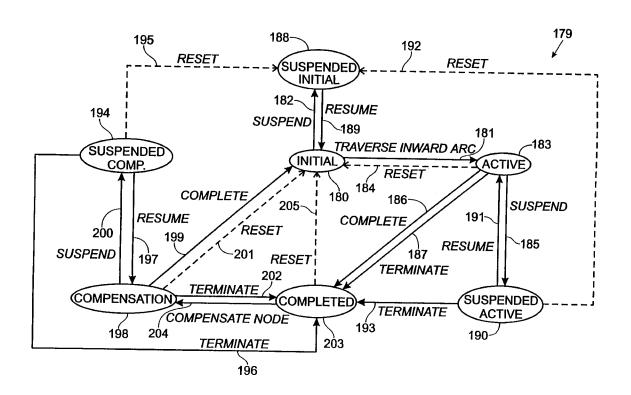




Fig. 1

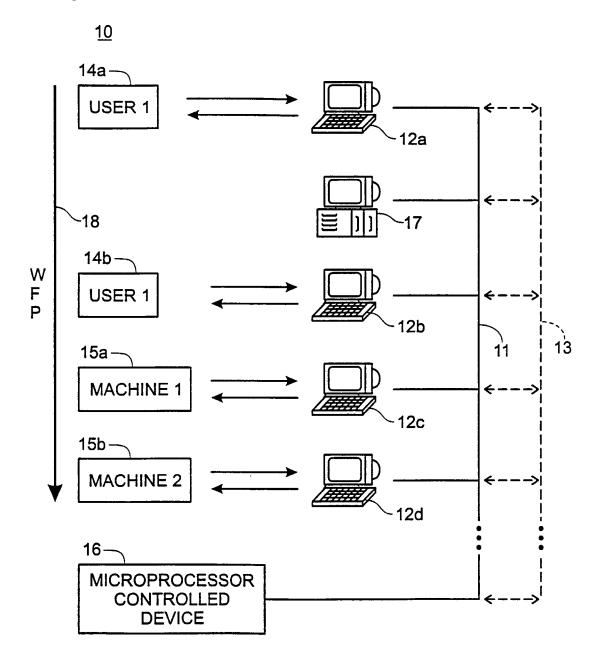


Fig. 2 23b 24c 22c 24b **PROCESS PROCESS** PROCESS **STATUS INSTANCE** DESIGNER **MONITOR** 24a **EXECUTION** 22b 23a 22a HP OpenPM ENGINE HP OpenPM DATABASE 12a 21 20 -26 **SWITCHWARE** DCE, OM, ·27 MO,... 28c **RESOURCE BUSINESS OBJECT 33**

MANAGEMENT

28a

28b

TRADER

29

30

EDI

MANAGEMENT

31 LEGACY APPLICATIONS 32

SAP

OV/

DM

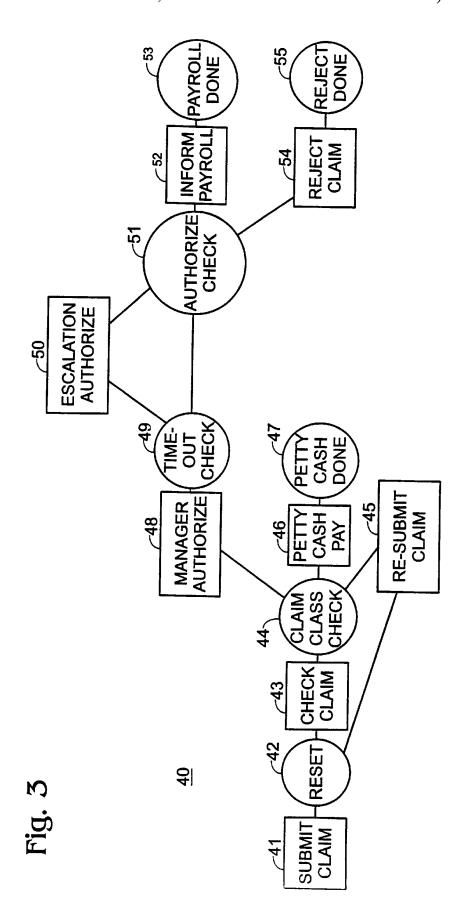
34b

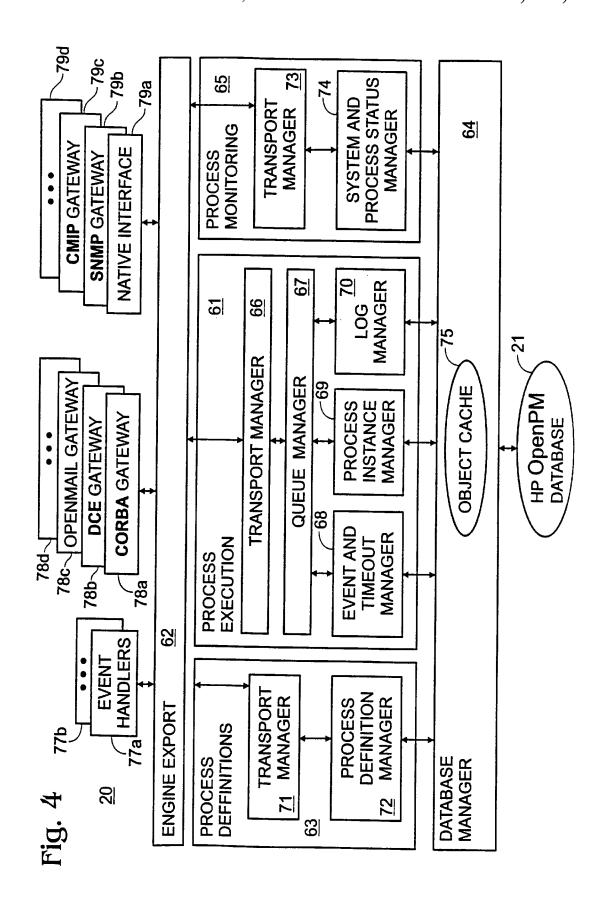
APPLICATION

DATABASE

APPLICATION DATABASE

34a







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